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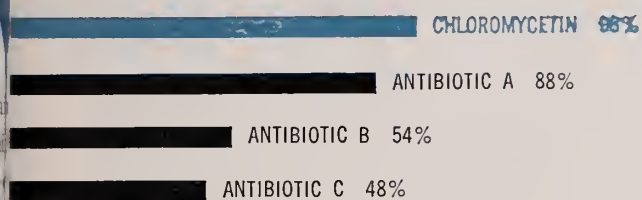
CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, with certain other drugs, adequate blood studies should be made when the patient requires prolonged intermittent therapy.

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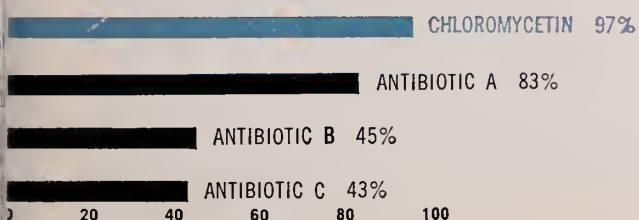


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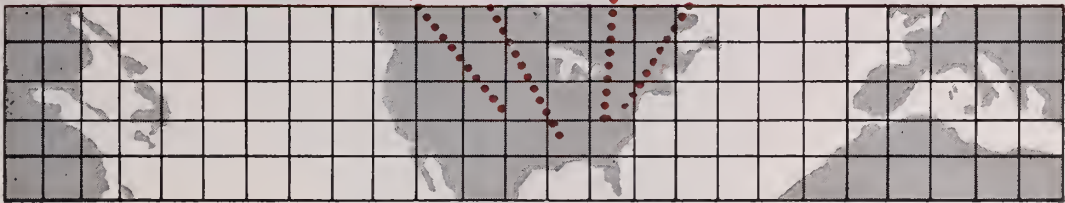
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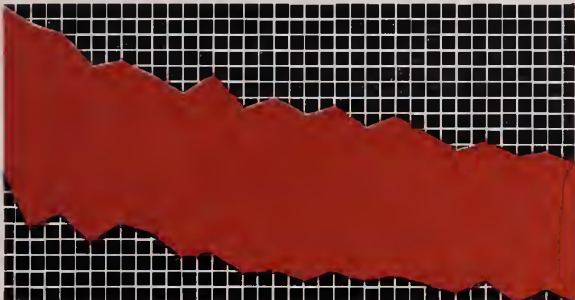
*For complete information
write Professional Services,
Dept. H, Merck Sharp & Dohme,
West Point, Pa.*



HYDRODIURIL alone



RESERPINE alone



HYDROPRES
much more effective
than either of its
components alone

- Effective by itself in a majority of patients. Provides smooth, more trouble-free management of hypertension.
- Since HYDRODIURIL and reserpine potentiate each other, the required dosage of each is lower when given together as HYDROPRES than when either is given alone.
- HYDROPRES provides the needed and valuable tranquilizing effect of reserpine. Lower dosage may reduce such side effects of reserpine as excessive sedation and depression.
- Arrest or reversal of organic changes of hypertension may occur.
- Headache, dizziness, palpitations and tachycardia are usually promptly relieved. Anginal pain may be reduced in incidence and severity.
- With HYDROPRES, dietary salt may be liberalized.
- Convenient, controlled dosage.

HYDROPRES-25

25 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one to four times a day.

HYDROPRES-50

50 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one or two times a day.

If the patient is receiving ganglion blocking drugs or hydralazine, their dosage must be cut in half when HYDROPRES is added.



MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

*HYDRODIURIL AND HYDROPRES ARE TRADEMARKS OF MERCK & CO., INC.

NOW

*... a new way
to relieve pain
and stiffness
in muscles
and joints*

INDICATED IN:

MUSCLE STIFFNESS

LUMBOSACRAL STRAIN

SACROILIAC STRAIN

WHIPLASH INJURY

BURSITIS

SPRAINS

TENOSYNOVITIS

FIBROSITIS

FIBROMYOSITIS

LOW BACK PAIN

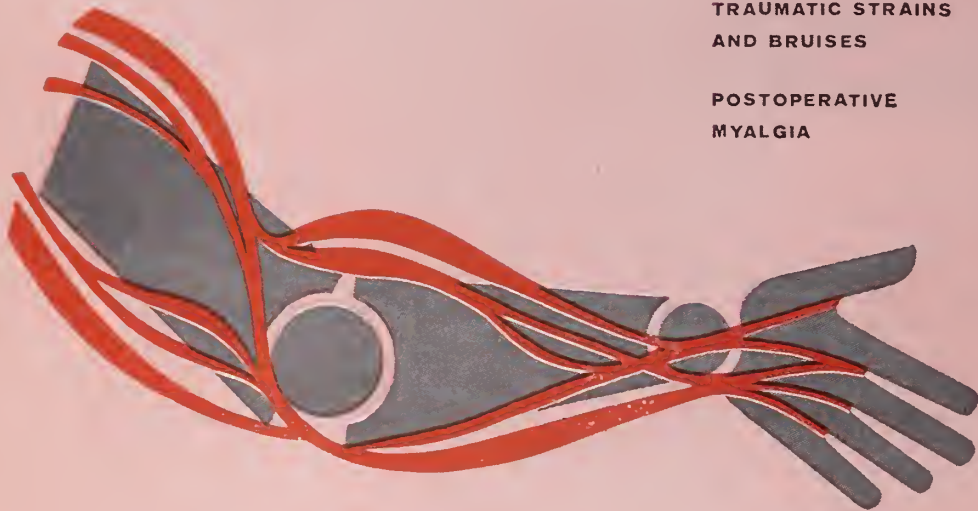
DISC SYNDROME

SPRAINED BACK

"TIGHT NECK"

TRAUMATIC STRAINS
AND BRUISES

POSTOPERATIVE
MYALGIA



- Exhibits unusual analgesic properties, different from those of any other drug
- Specific and superior in relief of SOMATIC pain
- Modifies central perception of pain without abolishing natural defense reflexes
- Relaxes abnormal tension of skeletal muscle

SOMATM

N-isopropyl-2-methyl-2-propyl-1, 3-propanediol dicarbamate

- More specific than salicylates
- Less drastic than steroids
- More effective than muscle relaxants

SOMA has an unique analgesic action. It apparently modifies central pain perception without abolishing peripheral pain reflexes. SOMA is particularly effective in relieving joint pain. Patients say that they feel better and sleep better with SOMA than with any previously used analgesic, sedative or relaxant drug.

SOMA also relaxes muscle hypertonia, with its stresses on related joints, ligaments and skeletal structures.

ACTS FAST. Pain-relieving and relaxant effects start in 30 minutes and last 6 hours.

NOTABLY SAFE. Toxicity of SOMA is extremely low. No effects on liver, endocrine system, blood pressure, blood picture or urine have been reported. Some patients may become sleepy on high dosage.

EASY TO USE. Usual adult dose is one 350 mg. tablet 3 times daily and at bedtime.

SUPPLIED: Bottles of 50 white sugar-coated 350 mg. tablets.

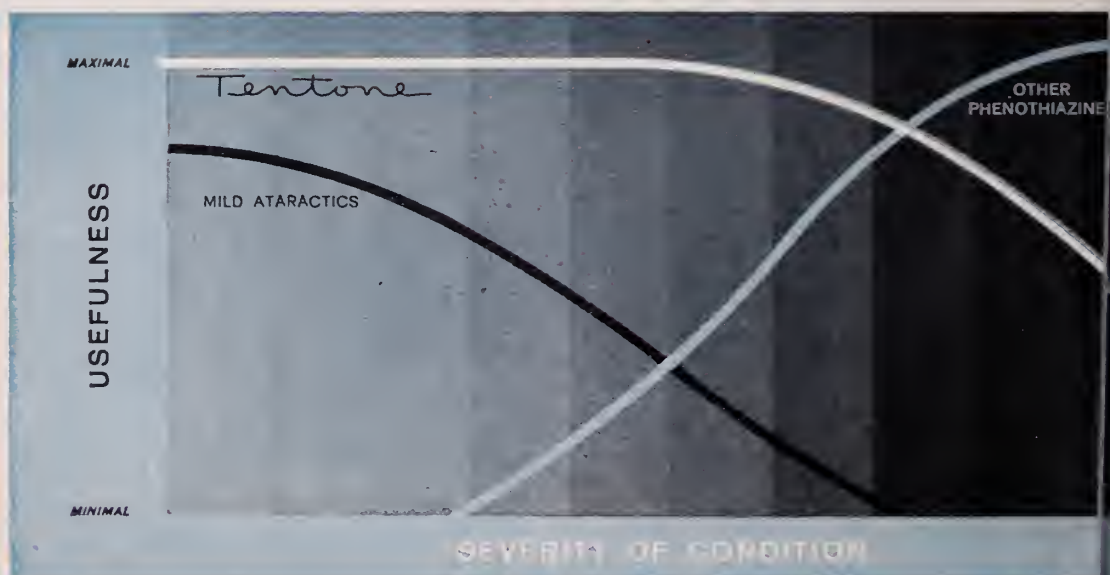
Literature and samples on request.



WALLACE LABORATORIES, NEW BRUNSWICK, N. J.

new... highly effective tranquilizer

Comparison of TENTONE usefulness



. for extended office practice use



Methoxypromazine Maleate

LEDERLE

NEW PHENOTHIAZINE COMPOUND FOR THE LOWER AND MIDDLE RANGE OF DISORDERS


◆ Positive, rapid calming effect in mild and moderate cases.
◆ Striking freedom from organic toxicity, intolerance, or sensitivity reaction—particularly at low dosage. ◆ Greater freedom from induced depression or drug habituation. ◆ May be useful, as with other tranquilizers, to potentiate action of analgesics, sedatives, narcotics. ◆ Facilitates management of surgical, obstetric, and other hospitalized patients. ◆ Indicated when more than a mild sedative effect is desired...and less than psychosis is involved. ◆ Dosage range: *In mild to moderate cases:* from 30 to 100 mg. daily. *In moderate to severe cases:* from 75 to 500 mg. daily.


LEDERLE LABORATORIES, a Division of **AMERICAN CYANAMID COMPANY**, Pearl River, New York



Supplied


10 mg. tablets


25 mg. tablets


50 mg. tablets

The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifstein.¹ Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,² in a study of pregnancies with threatened abortion, found that:

- 37% of 73 pregnancies were carried to term without progestational therapy
- 64% of 42 pregnancies were salvaged by progesterone
- 83% of 73 pregnancies were salvaged by Delalutin

Eichner,³ found that with Delalutin fetal salvage of infants below term weight (1000 to 2000 gm.) was significantly improved.

108 (76%) of 142 babies of this birth weight survived without progestational therapy.

16 (100%) of 16 babies of this birth weight survived with Delalutin therapy.

A comparison study was made of a group of repeated aborters treated with Delalutin, and a group with a similar history treated with bed rest and sedation.⁴ Pregnancy salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active," well-tolerated and long-acting.

Delalutin offers these advantages over other progestational agents:

- longer-acting and more sustained therapy
- more effective in producing and maintaining a completely matured secretory endometrium
- no androgenic effect
- more concentrated solution requires injection of less vehicle
- unusually well-tolerated, even in large doses
- requires fewer injections
- low viscosity makes administration easier

DELALUTIN is also potent and safe therapy for: threatened abortion; postpartum after-pains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

Administration and Dosage: Because of its low viscosity, Delalutin may be administered with a small gauge needle (deep intragluteal injection). Complete information on administration and dosage is supplied in the package insert.

Supply: Delalutin is available in vials of 2 and 10 cc., each cc. containing 125 mg. of hydroxyprogesterone caproate in sesame oil, and benzyl benzoate.

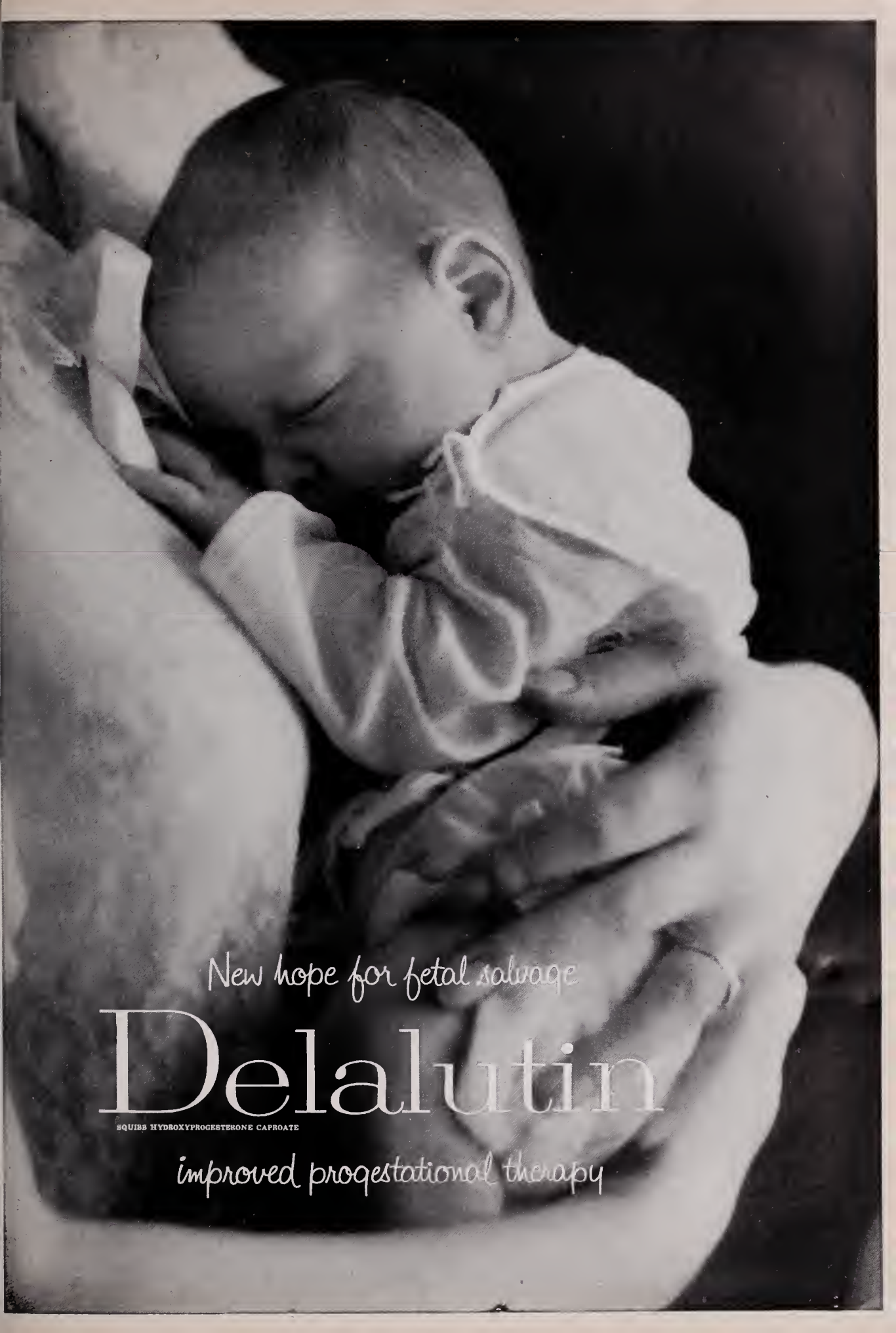
References: 1. Reifstein, E. C., Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. and Gyn.* 76:279, 1958.

SQUIBB



Squibb Quality—the Priceless Ingredient

Delalutin® is a Squibb trademark



New hope for fetal salvage

Delalutin

SQUIBB HYDROXYPROGESTERONE CAPROATE

improved progestational therapy

RESEARCH:

key to Kent's popularity

In 1958, Kent made the greatest gain in popularity ever recorded by any filter cigarette in any year—a sales increase of 20-billion cigarettes.

Behind this popularity is a story of months and years of research, perfecting the remarkable combination of filter action and flavor found in today's Kent cigarette. In developing Kent, Lorillard research scientists recognized that smokers wanted, on the one hand, a really satisfying taste; on the other, reduced tars and nicotine. In addition, smokers demanded a free and easy draw.

These, then, were the objectives. The first scientific breakthrough in the project was the development of the exclusive Micronite filter, patented by Lorillard. This filter was created because of newly-discovered principles in the field of filtration, which have

been previously described in these pages.

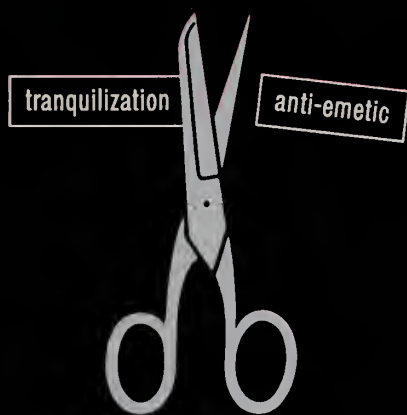
Though this filter satisfied everyone on its ability to reduce tars and nicotine to the lowest level among the largest selling brands, there was still work to be done in the areas of taste and draw. After additional months of research, a new tobacco blend was developed which delivered rich taste *after* the smoke had passed through the filter. Next in the series of laboratory triumphs was a method of improving the draw to compare with the most free-drawing of all filter brands.

The rest of the Kent story is a legend in the tobacco industry. Outside, independent research studies confirmed the fact that Kent had achieved its objectives. Smokers responded. In fact, during the past year, more smokers changed to Kent than to any other cigarette in America.



A Product of P. Lorillard Company—First with the finest cigarettes—through Lorillard Research!

now potent tranquilizer therapy is safer than ever



Virtual freedom of Mellaril from major toxic effects is due to greater specificity of tranquilizing action — divorced from such "diffuse" effects as anti-emetic action.

MELLARIL is virtually free
of such toxic effects as

- jaundice
- Parkinsonism
- blood dyscrasia

"Thioridazine [MELLARIL] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines. . . . This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."¹



Mellaril[®]

THIORIDAZINE HCl

specific, effective tranquilizer • safer at all dosage levels

remarkable lack of side effects

In more than 3,000 carefully-followed patients, Mellaril has been almost completely free of such major side effects as **jaundice, extrapyramidal symptoms, Parkinsonism, blood dyscrasia, dermatitis**—even when given in quantities far in excess of the usual dosage.

"POVERTY" OF SIDE EFFECTS

"The most striking aspect of thioridazine [Mellaril] therapy is the poverty of side effects... In its lack of side effects and low toxicity, it is superior to all other tranquilizing drugs tested. For this reason also it is well tolerated by patients, particularly those who are not hospitalized and who frequently discontinue their medication because of dizziness, sleepiness, increased tension or parkinsonism with other drugs."²

NEGLIGIBLE SIDE EFFECTS

"Side effects were negligible at all dosage levels: no incidence of parkinsonism or other extrapyramidal symptoms. Minimal sedation, on the whole lower than with other tranquilizing agents. No alteration in liver function, urine or blood. No photosensitivity. Patient acceptability was exceptional: lack of drowsiness, lethargy or 'washed out' feeling, permitted patients to carry on normal everyday activities. Orthostatic hypotension was absent. The initial 'keyed up' tense feeling common to other drugs of this type was absent... Patients forced to interrupt treatment with other phenothiazine derivatives because of parkinsonism or other extrapyramidal symptoms were able to continue therapy with thioridazine without appearance of parkinsonism."³

SINGULARLY FREE OF SIDE EFFECTS

"The extrapyramidal syndrome was not encountered in

any of its forms. Dizziness and sleepiness responded to a reduction in dosage. Other side effects did not occur... It is singularly free from the side effects ordinarily seen with these [phenothiazine] compounds."⁴

ABSENCE OF SIGNIFICANT SIDE EFFECTS

"None of the following toxic effects, so common after administration of the phenothiazines, was present during the period of Thioridazine administration: Parkinsonism or Parkinson-like symptoms, photosensitivity, orthostatic hypotension, bone-marrow depression."¹

MINIMAL SIDE EFFECTS

"Side effects such as extrapyramidal activity, jaundice and photosensitivity have not been observed in patients treated with Thioridazine [Mellaril]. Extrapyramidal side effects produced by other phenothiazines have disappeared promptly with no deterioration in the behavioral response when these patients have been shifted to Thioridazine."⁵

NO JAUNDICE

"No allergic reactions were observed such as skin eruptions, jaundice or agranulocytosis. Central nervous system toxicity, as manifested by extrapyramidal effects, seizures, and excitement did not occur despite the use of high doses (up to 2000 mg.) of the drug."⁶



Mellaril[®]

THIORIDAZINE HCl

specific, effective tranquilizer • safer at all dosage levels

tranquilization

anti-emetic



excellent clinical response

In office practice and in hospitalized patients, Mellaril has proved highly useful for a wide variety of major and minor emotional disorders (such as anxiety, tension, apprehension, alcoholism, agitated psychoneurosis, agitated psychotic states, etc.).

EXTREMELY SATISFACTORY "... produced extremely satisfactory results in the broad therapeutic range represented in this series."³

POTENT AGENT "... appears to be a potent agent in the symptomatic management of a variety of psychiatric states."⁴

MAJOR ADDITION TO THERAPEUTICS "This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."¹

AN ACTIVE AGENT "Thioridazine is an active therapeutic agent. ... It is effective in a variety of psychiatric disorders, including schizophrenic reactions. ... The drug is particularly advantageous for a group of schizophrenic patients who are sometimes made worse by other phenothiazine derivatives or Rauwolfia alkaloids. It should also be suitable for treating patients with psychoneuroses and chronic brain syndrome."⁶

EVEN IN VERY SEVERE CASES "Of the 152 patients treated 25 have been released and they have not suffered a relapse. This proportion is significant if we stop to consider that we are dealing only with acute cases which had been considered hopeless and obviously destined to finish their days in an asylum."⁷

EXCELLENT THERAPEUTIC RESPONSE "Patients with emotional tensions resulting from the stress and strain of life ... were treated with Mellaril at the dosage level of 10 mg. three times daily. In 94 such patients, 83 obtained an excellent therapeutic response."⁸

"... extremely satisfactory results ..."
in a clinical spectrum ranging from
minor nervous disorders to
severe psychotic disturbances³

RESULTS WITH MELLARIL IN 194 PATIENTS³

ACUTE PSYCHOTICS

83% satisfactory effect

Some cases had complete remission of symptoms. Most were able to return home to useful occupations.

CHRONIC PSYCHOTICS

68% satisfactory effect

Relief of symptoms in cases permitted easier management and a return to a more or less useful life.

NEUROTICS

57% satisfactory effect

Some cases, complete relief of symptoms. Other cases, partial relief of symptoms.

RESULTS WITH MELLARIL IN PATIENTS PREVIOUSLY TREATED WITH OTHER TRANQUILIZERS³

DIAGNOSTIC CATEGORY	IMPROVED %	VERY SATISFACTORY %	SATISFACTORY %	UNSATISFACTORY %
SCHIZOPHRENIA				
Acute	89	61	28	11
Chronic paranoid	84.2	31.6	52.6	15.8
Chronic, other	73.9	21.7	52.2	26.1
Residual	57.1	9.5	47.6	42.9
CHRONIC BRAIN SYNDROME	66.6	33.3	33.3	33.3
CHRONIC PSYCHONEUROSIS	62.5	12.5	50	37.5
CHRONIC PSYCHOSOMATIC DISORDERS	75	25	50	25

Mellaril[®]
THIORIDAZINE HCl

specific, effective tranquilizer • safer at all dosage levels

tranquilization

anti-emetic



Mellaril[®]
THIORIDAZINE HCl

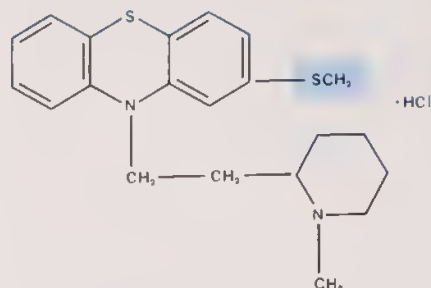
specific, effective tranquilizer • safer at all dosage levels

tranquilization

anti-emetic



a new advance in tranquilization:
greater specificity of tranquilizing action plus fewer side effects



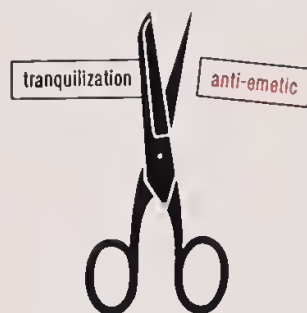
Of 109 phenothiazines synthesized by Sandoz, Mellaril was selected as the most promising on the basis of extensive evaluation. The presence of a thiomethyl radical (S-CH₃) in the position conventionally occupied by a halogen in other phenothiazines is unique and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:

- 1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.

MELLARIL

PSYCHIC RELAXATION
DAMPENING OF
SYMPATHETIC AND
PARASYMPATHETIC
NERVOUS SYSTEM

Minimal suppression of vomiting
Little effect on blood pressure
and temperature regulation



- 2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.
- 3 A notable absence of extrapyramidal stimulation.
- 4 Lack of impairment of patient's normal drive and energy, while achieving psychomotor control in mental and emotional disorders.
- 5 Virtual freedom from toxic effects — jaundice, photosensitivity, skin eruptions, disturbed body temperature regulation, blood forming disorders have been absent in reports currently available.

Psychic relaxation
Dampening of
sympathetic and
parasympathetic
nervous system

Strong suppression of vomiting
Dampening of blood pressure
and temperature regulation

other
phenothiazine-type
tranquilizers

These properties add up to a greater margin of safety in general office practice, in ambulatory psychiatric out-patient clinics, and in hospitalized patients.

a guide to administration and dosage

Dosage ranges from 10 mg. three or four times a day in milder situations to 25 mg. three or four times a day for more disturbed patients. In ambulatory psychiatric out-patients, dosages of 50 to 100 mg. three or four times a day have been found adequate. For severely dis-

turbed hospitalized psychotics, dosages of 200 to 300 mg. three times a day may be administered.

Dosage must be individualized according to the condition and degree of response. In all cases, the smallest effective dosage should be determined for each patient.

INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANGE
ADULTS		
Mental and Emotional Disturbances:		
MILD — where anxiety, apprehension and tension are present	10 mg. t.i.d.	20-60 mg.
MODERATE — where agitation exists in psychoneurosis, alcoholism, intractable pain, senility, etc.	25 mg. t.i.d.	50-200 mg.
SEVERE — in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.:		
Ambulatory	100 mg. t.i.d.	200-400 mg.
Hospitalized	100 mg. t.i.d.	200-800 mg.
CHILDREN		
BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.

PRECAUTIONS: Although possessing a unique structure and a selectivity of action which broadens its therapeutic ratio, the physician should be alert to the possibility of untoward reactions in certain susceptible individuals. In

particular, he should watch for potential hemopoietic depression, jaundice or orthostatic hypotension. As with other phenothiazines, Mellaril is contraindicated in severely depressed or comatose states from any cause.

SUPPLIED: MELLARIL Tablets, 10 mg., 25 mg., 100 mg. Bottles of 100.

1. Ostfeld, A. M.: Scientific Exhibit, American Academy of General Practice, San Francisco, April 6-9, 1959. 2. Kinross-Wright, V. J.: Lecture, Clinical Meeting, American Medical Association, Minneapolis, Dec. 4, 1958. 3. Kinross-Wright, V. J.: Scientific Exhibit, Clinical Meeting, American Medical Association, Minneapolis, Dec. 2-5, 1958. 4. Cohen, S.: TP-21, a new phenothiazine, Am. J. Psychiat. 115:358, Oct. 1958. 5. Glueck, B.: Scientific Exhibit, American Psychiatric Association, Philadelphia, April 27-May 1, 1959. 6. Hollister, L. E., and Macdonald, B. F.: Presented at California Medical Association; Section on Psychiatry, San Francisco, Feb. 25, 1959. 7. Remy, M.: Schweiz. med. Wchnschr. 88:1221, Nov. 29, 1958. 8. Freed, S. C., in discussion on Thioridazine (Mellaril) in Psychiatric Patients, Hollister, L. E., and Macdonald, B. F., presented at California Medical Association; Section on Psychiatry, San Francisco, Feb. 25, 1959.

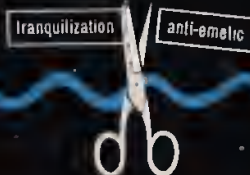
- controls neurotic and psychotic patients with anxiety, apprehension, nervous tension
- virtual absence of jaundice, parkinsonism, photosensitivity, dermatitis
- minimal sedation and drowsiness
- does not mask organic conditions such as brain tumors, intestinal obstruction, etc., because of lack of anti-emetic action
- increased specificity of action results in greater safety at all dosage levels



Mellaril®

THIORIDAZINE HCl

specific, effective tranquilizer • safer at all dosage levels



Mellaril®

THIORIDAZINE HCl

specific, effective tranquilizer • safer at all dosage levels



extends the range of relief in HAY FEVER

usual medications
act only here

NEW

isoclor

acts here

to relieve both nasal
.....
and chest discomfort

NEW

isoclor

provides both ... / upper respiratory decongestion
and bronchial decongestion

Many hay fever patients also experience chest discomfort. For these patients, new ISOCLOR provides relief along the entire respiratory tract.

COMBINES the nasal and bronchial decongestant action of d-isoephedrine with the histamine blocking action of chlorpheniramine.

RELIEVES the discomforts of rhinorrhea, itching, sneezing, hyperlacrimation and post nasal drip—let s the patient get a full night's rest—with minimal daytime drowsiness, CNS or pressor stimulation.

TABLETS AND SYRUP for adults and children ...

COMPOSITION:	Per tablet	Per 5 ml. syrup
Chlorpheniramine maleate	4 mg.	2 mg.
d-Isoephedrine HCl.....	25 mg.	12.5 mg.

DOSE: Tablets: One tablet 3 or 4 times daily. Syrup: Children: 3-6 yrs. ½ tsp. t.i.d.; 6-12 yrs. 1 tsp. t.i.d.; Adults: 2 tsp. t.i.d.

AVAILABLE: Tablets: Bottles of 100. Syrup: Pint bottles.

CHARLES C.

HASKELL

& COMPANY

Richmond, Virginia

NO SALT *..but seasoned*



A meal of even the most colorful and the most meticulously prepared food can be dreary eating without salt. Neocurtasal, for the patient on a low-sodium diet, brings back flavor to foods — makes eating a pleasure once more.

Neocurtasal[®]

An excellent salt replacement
for
“Salt-Free” (Low Sodium) Diets

Winthrop LABORATORIES
New York 18, N.Y.

*Assures patient's
cooperation*

*Contains potassium chloride,
potassium glutamate,
glutamic acid, calcium
silicate, potassium
iodide (0.01%).*

2 oz. shakers and
8 oz. bottles

Sold Only Through Drugstores

VIRGINIA MEDICAL MONTHLY



when it's skin deep
 use XYLOCAINE ointment

... in nearly all external symptoms of *pain, itching and burning*, e.g., sunburn, minor burns, insect bites, abrasions, poison ivy and other contact dermatitis, hemorrhoids and inoperable anorectal conditions, and cracked nipples.

Xylocaine Ointment, a surface or topical anesthetic, gives fast, effective and long lasting relief. Its *water-soluble, nonstaining* base melts on contact with the skin, to assure immediate release of the anesthetic for fast action and it does not interfere with the healing processes.



ASTRA PHARMACEUTICAL PRODUCTS, INC., WORCESTER 6, MASS., U.S.A.

XYLOCAINE® OINTMENT
 (brand of lidocaine*)

2.5% & 5%

SURFACE ANESTHETIC



*U.S. Pat. No. 2,441,498 Made in U.S.A.

avoid the risk of insoluble, irritating aspirin particles

Chief among the drawbacks to aspirin usage is gastric intolerance. This ranges from mild upset and "heartburn" to severe hemorrhagic gastritis.¹⁻¹⁰ Studies performed in conjunction with gastrectomy^{4,5} and gastroscopy² have shown insoluble aspirin particles firmly adherent to

the gastric mucosa and imbedded between rugae. Reactions varying from mild hyperemia to erosive gastritis have been reported to occur in the areas immediately surrounding these adherent particles.^{2,4,5} This is reported to be particularly true in patients with peptic ulcer.⁴

CALURIN is the freely soluble, stable calcium aspirin complex. Its high solubility forestalls gastric irritation or damage



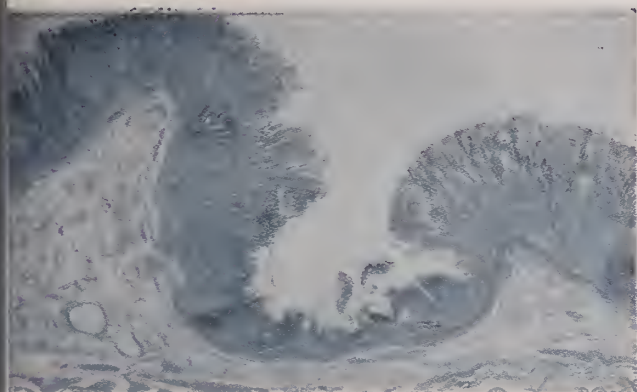
Regular aspirin crystals 24 hours after being mixed into water.



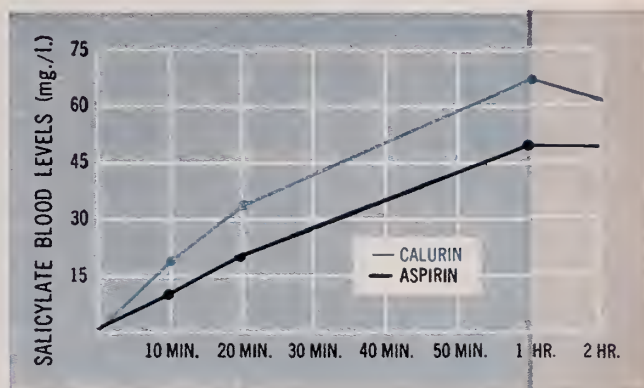
Calurin crystals in solution one minute after being mixed into water.

CALURIN*

STABLE SOLUBLE CALCIUM-ACETYLSALICYLATE-CARBAMIDE



Particle-induced ulceration — section through lesion found in gastrectomy specimen. An aspirin particle was found firmly imbedded in this undermined erosion. Such lesions may be associated with the relative insolubility of aspirin, which remains in particulate form after dispersion in gastric contents.



Calurin, being freely soluble, is promptly available for absorption into the systemic circulation. Salicylate blood levels in 12 subjects receiving both Calurin and plain aspirin were found to rise more than twice as high within ten minutes following Calurin. Also, these levels persisted higher for at least two hours.¹¹

CALURIN is the aspirin of choice, especially when high-dosage, long-term therapy is indicated:

- 1 High solubility forestalls gastric irritation or damage. This advantage is of special importance in arthritis and other conditions requiring high-dosage, long-term therapy.
- 2 Produces high salicylate blood levels rapidly for prompt analgesic, antipyretic, anti-arthritic effect.
- 3 Sodium-free — for safer long-term therapy.
- 4 Flavored: can be chewed or dissolved in the mouth without water if desired — an advantage for patients requiring aspirin administration during the night and for pediatric patients.

Dosage: Each tablet of Calurin is equivalent to 300 mg. (5 gr.) of acetylsalicylic acid. For relief of pain and fever in adult patients, the usual dose of Calurin is 1 to 3 tablets every 4 hours, as needed; in arthritic states, 2 or 3 tablets 3 or 4 times

daily; in rheumatic fever, 3 to 5 tablets 4 or 5 times daily. For children over 6 years, the usual dose is 1 tablet every 4 hours; for children 3 to 6 years, ½ tablet every 4 hours, as required. Not recommended for children under 3.

REFERENCES: 1. Waterson, A. P.: Aspirin and gastric haemorrhage, *Brit. M. J.* 2:1531, 1955. 2. Douthwaite, A. H., and Lintott, G. A. M.: Gastroscopic observation of the effect of aspirin and certain other substances on the stomach, *Lancet* 2:1222, 1938. 3. Editorial Comments: The effect of acetylsalicylic acid (aspirin) on the gastric mucosa, *Canad. M. A. J.* 80:47, 1959. 4. Muir, A., and Cossar, I. A.: Aspirin and ulcer, *Brit. M. J.* 2:7, 1955. 5. Muir, A., and Cossar, I. A.: Aspirin and gastric haemorrhage, *Lancet* 1:539, 1959. 6. Schneider, E. M.: Aspirin as a gastric irritant, *Gastroenterology* 33:616, 1957. 7. Bayles, T. B., and Tenckhoff, H.: Salicylate therapy in rheumatic diseases, Scientific Exhibit, Ann. Mtg. A. M. A., San Francisco, Calif., June, 1958. 8. Batterman, R. C.: Comparison of buffered and unbuffered acetylsalicylic acid, *New Eng. J. M.* 258:213, 1958. 9. Cronk, G. A.: Laboratory and clinical studies with buffered and nonbuffered acetylsalicylic acid, *New Eng. J. M.* 258:219, 1958. 10. Editorial: Aspirin plain and buffered, *Brit. M. J.* 1:349, 1959. 11. Smith, P. K.: Plasma concentration of salicylate after the administration of acetylsalicylic acid or calcium acetylsalicylate to human subjects, Report submitted to Smith-Dorsey from Dept. of Pharmacology, Geo. Washington Univ. School of Medicine, Washington, D. C., Sept. 5, 1958.

*TRADEMARK

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska

NOW—YOU CAN PRESCRIBE THE UNSURPASSED ADVANTAGES

superior antiallergic efficacy
with new *low dosage*

NEW Arist

- combines the anti-inflammatory, antiallergic and antihistaminic effects of two agents—ARISTOCORT and chlorpheniramine which, separately, have been proved highly effective in the treatment of allergy
- permits greater latitude in adjusting dosage to minimum level needed for maintenance, because ARISTOCORT and chlorpheniramine are supplied in the lowest dose tablets available for each component alone
- supplies ascorbic acid for increased demand in stress conditions

Indications: Generalized pruritus of allergic origin; hay fever, allergic rhinitis, perennial asthma, seasonal and perennial rhinitis, vasomotor rhinitis; drug reactions and other allergic conditions.

Dosage: One to eight capsules a day in divided doses. Dosages should be established on the basis of individual therapeutic response.

Precautions: Drowsiness may occur, and is usually due to the antihistamine effect. Occasionally this may also cause vertigo, pruritus and urticaria. Because of the low dosage, side effects with ARISTOMIN have been relatively infrequent and minor in nature. However, since ARISTOCORT Triamcinolone is a highly potent glucocorticoid with profound metabolic effect, all precautions and contraindications traditional to cortico-

steroid therapy should be observed. Discontinuance of therapy must not be sudden after patients have been on steroids for prolonged periods. It must be carried out gradually over a period of as much as several weeks.

Further information available on request.

Supply: Each ARISTOMIN Capsule contains:

ARISTOCORT® Triamcinolone	1 mg.
Chlorpheniramine Maleate	2 mg.
Ascorbic Acid	75 mg.

Bottles of 30 and 100

References: 1. Maurer, M. L.: Clinical Report, cited with permission. 2. Levin, L.: Clinical Report, cited with permission. 3. Gaillard, G. E.: Clinical Report, cited with permission.

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"I would conclude that ARISTOMIN is truly a worthwhile aid in treating allergic problems."¹

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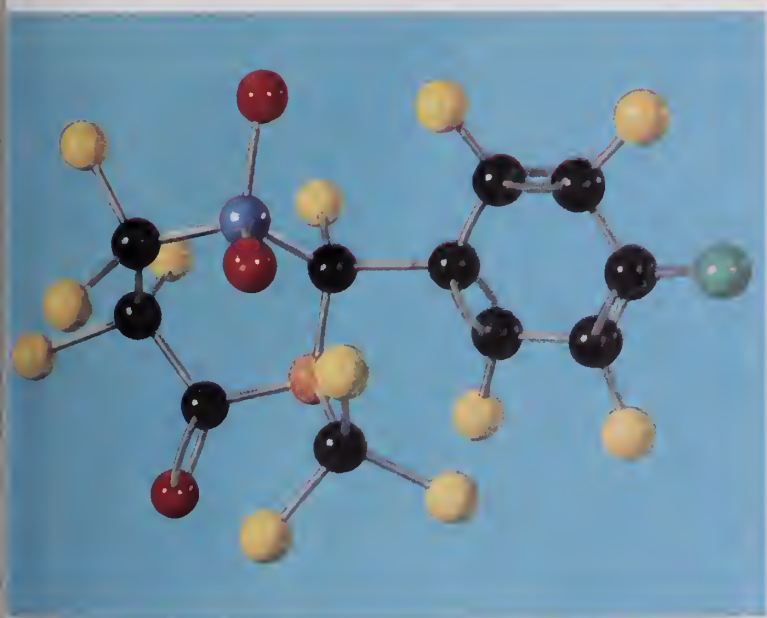
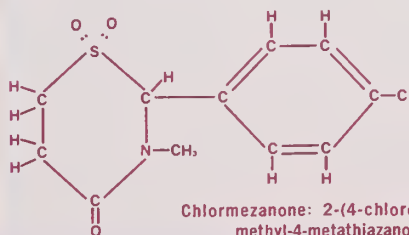
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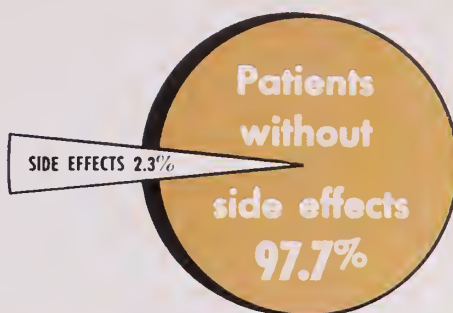
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INCIDENCE OF SIDE EFFECTS WITH TRANCOPAL IN 4483 PATIENTS



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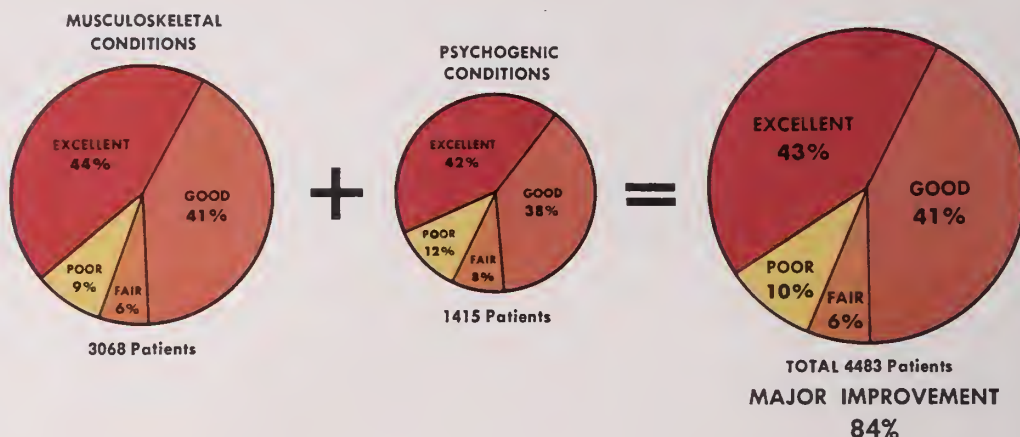
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References: 1. Collective Study, Department of Medical Research, Winthrop Laboratories. • 2. Ganz, S.E.: *J. Indiana M. A.* In press. • 3. Lichtman, A.L.: *Kentucky Acad. Gen. Pract. J.* 4:28, Oct., 1958.

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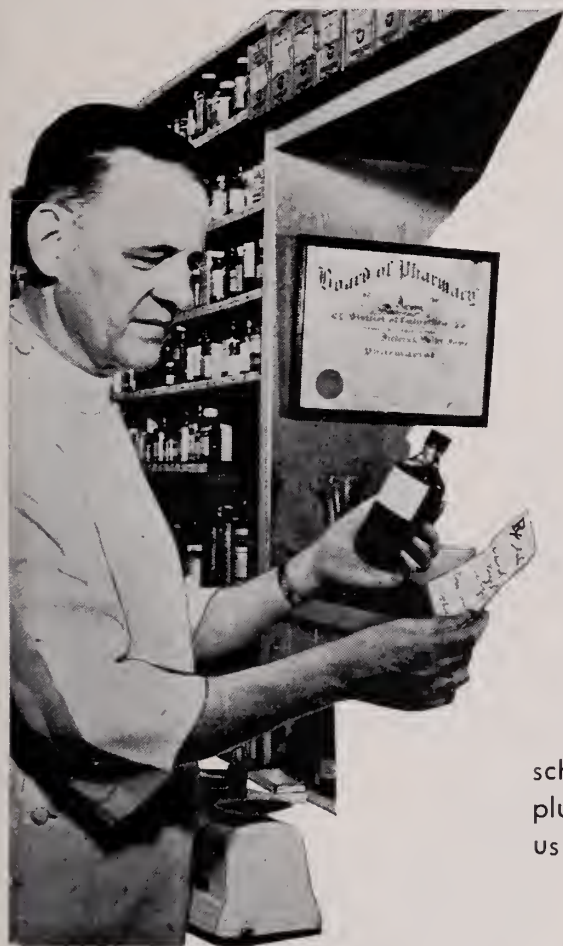
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2 to 6 years 3 cc.
adults and children over 6 1 tsp. (5 cc.)

2 or 3 times daily, on the tongue, in fruit juice or water

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957; 2. Groskloss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955; 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955; 4. Crawley, C. R.; West, J. Surg. Med. 3:223 1956; 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955; 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958; 8. Dougan, H. T.: Personal communication; 9. Leonard, C. L.: Personal communication; 10. Steinberg, C. L.: Personal communication.



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WHAT IT IS:

A combination of Atabrine® hydrochloride 25 mg., Aralen® phosphate 65 mg. and Plaquenil® sulfate 50 mg.

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HOW IT ACTS:

Each of the three components produces beneficial response in lupus erythematosus and light-sensitivity eruptions. Since the dose of each of the Triquin components is very low, overall toxicity is reduced and clinical tolerance improved. Furthermore, the three components appear to act synergistically.

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DOSAGE:

Lupus. Average initial adult dose, 1 or 2 tablets after meals and at bedtime. Dosage should be reduced gradually at two week intervals to 1 or 2 daily.

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¹Sadove, Max S. and Schwartz, Lester: An Evaluation of Buffered Versus Nonbuffered Acetylsalicylic Acid, *Postgraduate Medicine*; 24:183, August, 1958.
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		True	False
1	Corticosteroids relieve rheumatic pain by raising the pain threshold.	<input type="checkbox"/>	<input type="checkbox"/>
2	Corticosterone is the only corticosteroid identified in adrenal venous blood.	<input type="checkbox"/>	<input type="checkbox"/>
3	Approximately 10 mg. of urinary 17-ketosteroids are excreted daily during normal adrenocortical function.	<input type="checkbox"/>	<input type="checkbox"/>
4	The pioneer experiments on the effects of adrenalectomy were performed by Addison.	<input type="checkbox"/>	<input type="checkbox"/>

For answers to quiz, see opposite page.

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corticosteroid quiz

Answers: 1. False—by altering tissue reaction. 2. False—only hydrocorti-
some has been so identified. 3. True. 4. False—performed by Brown-Seguard.



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Guest Editorial

Adam and Eve

THAT LADY BEAUTIFUL who graced your bed and board these many years and with whom you have lived in conjugal bliss may be—reach for your tranquilizer, please—I say “she” may be a MALE. This is the latest indignity that the dark wings of science have spread over your happy home.

Time was when a young man went a-courtin’ with complete assurance, never the least shadow of a doubt, that the wistful eyes into which he gazed or the bowed lips that yielded to his caresses were the features of a female, a girl, a thing opposite to man, feminine. Alas, those halycon days are no more. Now on every date he must carry two slides and a cotton applicator so that a buccal smear may be taken and hurried to the nearest laboratory for a definition of “her” genotype lest he inadvertently practice homosexuality. Well! may the poet sing:

“Oh, science, true daughter of old time thou art
Who alterest all things with thy peering eyes.
Why preyest thou thus upon the poet’s heart?
Vulture, whose wings are dull realities.”

For clarity let me say that in this discussion we are not considering pseudohermaphroditism or anatomic intersexuality. We are concerned here with the young woman, happily married, enjoying a normal sex relationship, having a normal libido and organism, who consults the doctor for oligomenorrhea and sterility. She gives a history of delayed menarche and a scanty flow which occurs two or three times a year. Occasionally she may menstruate with fair regularity but this is the exception.

On clinical study it is found that the oligomenorrhea and sterility are related to ovulation failure and hypogenesis of the uterus and ovaries. The female sex characters are incompletely developed tending towards the boyish figure with small breasts and short stature. The cervical-fundic length is that of the preadolescent. The vagina is normal but hypogenesis of the ovaries and uterus is always present. The ovaries are often not palpable; if present at all they are small linear structures.

The author has professional acquaintance with a young lady of average height, boyish figure, happily married to the same man for 12 years. She is genotype male.

Clinically she presents a case of "Turner's Syndrome" which we have heretofore attributed solely to ovarian hypogenesis. She menstruates two or three times a year. The flow is scanty. The cervix and uterus are small, the cervical-fundic length measures 2 cm. The adnexae are not palpable. Her genotype, determined by both buccal and vaginal smear, is male.

Every cell in the female body contains the XX sex chromosome. This chromosome appears on stained slides of cells from the mouth cavity or from the vagina as a small deeply staining drum-stick shaped piece of chromatin lying at the periphery of the nucleus. At least 50% of the cells from the female buccal mucosa will show this drum-stick shaped chromatin mass. In contrast, smears from the male do not show this chromatin mass.

How does this paradox of nature arise? Here is a young lady, to all intents and purposes a female, albeit she is infertile, who carries the genetic structure of the male and the sex appearance of the female. It is now known that intrauterine endocrine environment alters the natural development of what was intended to be a male fetus. Androgen from its own embryonic gonad is essential to the normal intrauterine masculine development of the genetic male embryo. If for some reason this embryonic testis does not develop or function, then the genetic male will develop along female lines producing the individual whom we have attempted to describe here. In the absence of a functioning testis in the male embryo its intrauterine endocrine environment is estrogenic or feminizing. Under this influence the male embryo develops as a female.

What is the responsibility of the physician in such a case? Confronted with a happily married couple who to all outward appearances are male and female the physician has to weigh his words carefully. Should he inform the couple that their marriage is one of a male married to a male? This would be cruel indeed. Heterosexuality may be necessary for reproduction but it is apparently not necessary for a happy, emotional, spiritual, and biological union. Domestic bliss can be achieved and the mating can be emotionally satisfying between two individuals of the same sex genotype. Much better to let the dream go on than to becloud two lives with the dark wings of science.

It might be well for us occasionally to balance the relative value of those things which science has given us and those things which it has taken away. Oh! science:

"Hast thou not dragged Diana from her car?
And driven the Hamadryad from the wood,
To seek shelter in some happier star?
Hast thou not torn the Naiad from her flood,
The Elfin from the green grass, and from me
The summer dream beneath the tamarind tree?"

WILLIAM BICKERS, M.D.

Effective Reduction in Blood Pressure without Ganglionic Blockade

D. W. RICHARDSON, M.D.

E. M. WYSO, M.D.

Richmond, Virginia

PRESENTLY AVAILABLE CHEMOTHERAPY of severe hypertension is woefully inadequate. Reserpine and hydralazine effect only moderate reduction in blood pressure. Ganglionic blocking agents can lower pressure markedly but at the cost of side-effects intolerable to the great majority of patients. Chlorothiazide seems effective, particularly in mild hypertension, but long-term, carefully controlled observation of its usefulness is not yet available. Great need exists for a potent blood pressure lowering agent, effective in severe hypertension, unhampered by incapacitating side effects.

In 1958, Maxwell et al^{1,2} described the striking antihypertensive effect of hexahydro-1-azepinepropionamidoxime, an agent novel in its long duration of action, persistently lowering pressure for two weeks after a single dose, and in its lack of ganglionic blocking effect.

An analog of this agent, octahydro-1-azocinylethyl guanidine sulfate (CIBA 5864-SU)* has been shown to lower markedly the blood pressure of hypertensive dogs and is the subject of this report, which records effects of the drug on blood pressure, urine electrolyte excretion, hematology, and blood chemistry in 18 patients with severe hypertension.

MATERIAL AND METHODS

CIBA 5864-SU has the chemical formula shown in figure 1, and the generic name guanethidine.

The drug is chemically unusual in its eight-membered ring structure. Pharmacologically, it has demonstrated marked anti-hypertensive effect, lasting about two weeks, in dogs made hypertensive by renal ischemia or carotid sinus denervation, and is novel in its presumed mechanism of action, the prevention of release of norepinephrine from sympathetic nerves (see discussion). Most of the subjects received 150-200 mg. of the drug on the first day, half this dose

on the second day and 50-100 mg. daily as a single dose thereafter.

Subjects were 18 male hospitalized patients each of whom had diastolic pressures averaging 110 mm. Hg. or more in a three-day control period. Six of

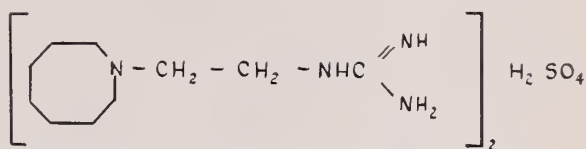


Fig. 1—Structural formula of [2-(octahydro-1-azocinylethyl) guanidine] sulfate, CIBA 5864-SU.

the group had control diastolic pressures averaging more than 140, nine more than 130, and 12 more than 120. Six had hemorrhages, exudates or papilledema of the optic fundi, 10 had blood urea nitrogen above 25 mg. % in the control period, and six had previously failed to respond to ganglionic blocking drugs and chlorothiazide in the hospital. One patient (J. B.) had primary renal amyloidosis, proved by biopsy; in the remainder the cause of the hypertension was undetermined despite Regitine® tests and intravenous pyelograms.

Blood pressure was recorded by nurses thrice daily in the supine and standing positions. BUN, serum bilirubin, electrolytes, blood hemoglobin concentration, white cell count, and platelet count was measured by the hospital clinical laboratory before and at weekly intervals during use of 5864-SU and until patients left the hospital. Urine, sodium, potassium and chloride excretion was measured daily during the first week of treatment.

RESULTS

Figure 2 and table 1 demonstrate changes in blood pressure associated with use of 5864-SU. Control blood pressures are the average of values recorded in the three days just prior to treatment, and treatment pressures are the averages of values obtained on five consecutive days during the height of action

From the Medical Service, McGuire Veterans Hospital, and the Department of Medicine, Medical College of Virginia.

*Supplied through the courtesy of Dr. Harold Bornhold, Ciba Pharmaceutical Products, Summit, N. J.

of this agent. Table 1 also shows side effects, the dose schedule used, duration of blood pressure lowering effect, and changes in blood urea nitrogen.

EFFECTS ON BLOOD PRESSURE

All patients showed definite reduction in blood pressure coincident with administration of 5864-SU. In most of the subjects, standing blood pressure could be maintained near normal levels. In no case could supine pressures be lowered to normal without

to four days after the drug was stopped, then gradually returned to pretreatment levels in seven to 21 days.

SIDE EFFECTS

5864-SU produced marked orthostatic hypotension in doses insufficient to reduce supine blood pressures to normal in 14 of the 18 patients studied. In these patients orthostatic dizziness occurred in all 14, fainting in six, and orthostatic confusion in four.

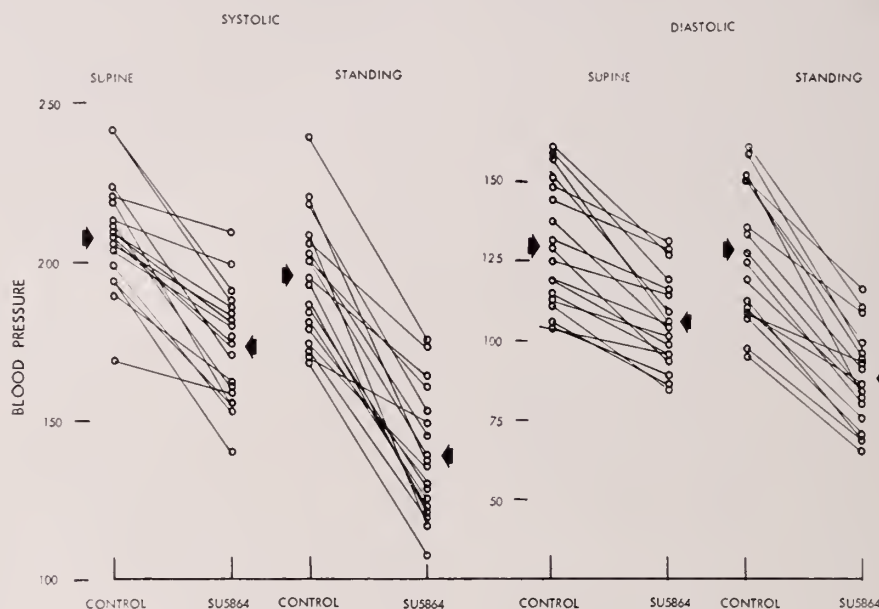


Fig. 2—The values plotted are taken from table 1. Each point in the control column represents the average of pressures recorded on three consecutive days just prior to administration of 5864-SU. Points in the 5864-SU columns represent the average of pressures recorded on five consecutive days at the height of action of the drug. Arrows denote the average for the group of 18 patients. Note that standing systolic pressure decreases more than standing diastolic, that is, pulse pressure decreased in the standing position.

the development of symptomatic orthostatic hypotension, but in all cases moderate reduction in supine pressures occurred at the time standing pressures were lowest. In 14 of the 18, standing pressure were reduced much more than supine values, and in the remaining four, supine and standing pressures fell about equally. In general, standing systolic pressures fell more than standing diastolic, so that pulse pressure narrowed in the standing position. Little or no narrowing of supine pulse pressure occurred.

Initial doses of 5864-SU of 200 mg., with 100 mg given on the second day, produced maximum decreases in blood pressure within 72 hours, often within 48 hours. In a few subjects given 100 mg. daily, blood pressure reduction took place more gradually, reaching lowest levels in about a week. Pressures usually remained at lowest levels for three

Though these symptoms of orthostatic hypotension can hardly be considered "side" effects, being the result of the desired effect of the drug, they were the most common, and in fact, the only significant problem associated with its administration. In every case, resumption of the supine posture relieved all symptoms within a few moments, and restored blood pressure to normal or hypertensive levels as soon as it could be measured.

Diarrhea occurred in six patients, coincided with maximum reduction in blood pressure, amounted to 3-4 loose stools daily, and readily responded to small doses of paregoric. Nausea occurred in four patients, with vomiting in one, also at the period of maximum blood pressure reduction. No other toxic effects were noted. Notably absent were the constipation, paresis of visual accommodation, and dry mouth charac-

TABLE 1—CLINICAL EFFECTS OF 5864-SU

SUBJECT	Duration of Treatment Days	Average Maintenance Dose Mg./Day		BLOOD PRESSURE mm. Hg.				SIDE EFFECTS	BUN mg. %		
				Systolic		Diastolic			Pre-Treatment	Treatment (2)	Post-Treatment
				Control (*)	Treatment (1)	Control (*)	Treatment (1)				
G.F.	5	50	Lying Standing	168 170	158 149	113 109	102 94	Diarrhea Orthostatic weakness	23	23	—
E.C.	12	50	Lying Standing	190 200	153 139	152 152	109 100	Nausea; (mild) Weakness; (mild)	12	12	—
C.S.	12	50	Lying Standing	222 220	209 138	144 151	129 95	Orthostatic syncope	40-43	59	—
J.H.	8	25-50	Lying Standing	204 193	180 121	119 113	99 70	Nausea; weakness; orthostatic dizziness; syncope; incontinence	63	82	59
O.M.	15	50-100	Lying Standing	194 174	155 135	115 110	96 86	Weakness; dizziness	15	19	—
C.R.	22	50	Lying Standing	242 219	191 153	161 163	128 112	Orthostatic dizziness; diarrhea	42-46	52-78	39-50
D.P.	58	50	Lying Standing	219 185	155 122	129 125	94 82	Diarrhea	15-17	29	25
G.A.	23	50	Lying Standing	206 184	182 127	125 128	114 85	None	25	30	25
J.B.	10	50	Lying Standing	190 181	160 125	106 108	88 77	None	37	40-49	49
R.A.	15	100	Lying Standing	209 194	187 164	119 119	106 86	Orthostatic syncope	16	19	—
E.W.	20	50	Lying Standing	212 171	162 119	104 98	96 70	Orthostatic dizziness; weakness	35-46	55-56	55
E.N.	4	50	Lying Standing	208 202	177 145	138 138	105 93	Orthostatic syncope; diarrhea	23	29	—
M.B.	11	100	Lying Standing	212 201	199 161	149 151	132 118	Confused	22-29	21	24
G.E.	7	100	Lying Standing	194 169	140 108	111 96	85 66	Orthostatic syncope; diarrhea	24	20	15
G.D.	18	75	Lying Standing	207 180	174 129	105 110	89 76	Nausea; vomiting; diarrhea; orthostatic dizziness and syncope	12	11	12
R.H.	46	75	Lying Standing	224 208	170 117	159 153	119 83	Orthostatic dizziness every A.M.	55	40	59
W.J.	41	100	Lying Standing	242 239	187 175	158 159	106 96	Diarrhea	39	23-46	20-22
J.M.	26	350	Lying Standing	208 212	182 174	132 135	117 110	None	14	14	—

FOOTNOTES: (*) Average of values for the three days just prior to treatment with 5864-SU.

(1) Average of values for five consecutive days of lowest BP during 5864-SU.

(2) At time of lowest B.P.

teristic of the parasympatholytic effects of ganglion blocking drugs.

CHEMICAL EFFECTS

Urinary excretion of sodium, potassium, and chloride was measured in 24 hour periods for two days before 5864-SU and for the first six days of therapy in 10 patients. Blood pressure was reduced definitely in each patient during the period in which urine electrolyte excretion was measured. Sodium and chloride excretion was unchanged in seven subjects, increased by 50 to 100% in two, and decreased by 50% in one subject (D.P.) whose blood pressure had been lowered from 210/130 to 150/100 supine and to 130/85 standing. Potassium excretion was unchanged.

Blood urea nitrogen rose 10 or more milligrams per cent in six patients, all of whom had rapid reduction in blood pressure over 3-4 days. In two of these patients BUN fell again to control levels after 5864-SU was discontinued. Very short post-treatment observation was available in the other four. Urinalyses were unchanged in all subjects. Preliminary observations of glomerular filtration rate and renal plasma flow in six subjects suggests that filtration rate is reduced slightly, and renal blood flow moderately during administration of the drug.

The question as to whether 5864-SU lowers blood pressure by (1) relaxation of arterioles, or (2) by dilation of veins and pooling of blood with reduction of cardiac output, cannot be answered definitely as yet. Orthostatic hypotension and reduction in pulse pressure suggest that, in the standing position, blood does pool in peripheral veins, with reduction in venous return to the heart, in stroke volume, and hence in pulse pressure. In the supine posture, however, definite reductions in blood pressure were achieved in all subjects, without reduction of pulse pressure, suggesting the possibility that arteriolar relaxation may have occurred. Initial observations of cardiac output, measured by indicator dilution, in seven of these patients show that cardiac output in the supine posture remains the same or rises moderately during the period of lowered blood pressure associated with 5864-SU therapy, suggesting that the drug produces arteriolar dilation. In the standing position marked reduction in cardiac output occurred during the further fall in blood pressure associated with orthostasis.

No evidence of hematologic or hepatic toxicity was observed as judged by weekly measurement of hemoglobin, hematocrit, white cell count, absolute platelet

count, serum bilirubin, or serum glutamic—oxaloacetic transaminase activity.

DISCUSSION

5864-SU is an agent which lowers blood pressures dramatically without the intolerable side effects of the ganglionic blocking drugs. Six of the patients in this group had been treated previously with one of the ganglion blockers, and all had failed to achieve satisfactory reduction in blood pressure because of unwillingness to tolerate the side effects. Orthostatic hypotension is a serious problem with ganglion blockers, often requiring cessation of therapy with these agents because of its severity and unpredictability. Since orthostatic hypotension also occurs commonly with 5864-SU, and since the number of subjects studied is few and the duration of experience short with 5864-SU, it is conceivable that orthostatic hypotension may limit its value in the long-term therapy of hypertension. The impression gained thus far, however, is that 5864-SU will prove less toxic than ganglion blockers.

Spittel et al⁴, using hydrochlorothiazide as an example of the chlorothiazide group, demonstrated a 16-mm. Hg. decrease in mean blood pressure during treatment with hydrochlorothiazide, and similar moderate decreases are the maximum to be expected from combinations of reserpine, hydrolazine, and chlorothiazide analogs in our experience. Thus guanethidine (5864-SU) is considerably more potent than reserpine, hydrolazine, or chlorothiazide in lowering blood pressure. The appreciable incidence of unpleasant symptomatology (orthostatic dizziness and fainting) with guanethidine in the doses used in this initial evaluation suggests that lower doses be employed in further experience with the drug in patients with less severe hypertension.

Information regarding the mechanism of action of 5864-SU³ may be summarized as follows:

- (1) The agent lowers blood pressure in dogs made hypertensive by renal ischemia or carotid nerve resection, but not in normotensive dogs.

- (2) It inhibits the hypertensive response to carotid sinus occlusion in normal dogs.

- (3) 5864-SU relaxes the nictitating membrane of the cat's eye and prevents normal contraction of the membrane in response to stimulation of the (preganglionic) cervical sympathetic nerves.

- (4) At a time when 5864-SU completely prevents contraction of the nictitating membrane in response to sympathetic stimulation, such stimulation can produce action potentials in the preganglionic sympathetic nerves stimulated, as well as in post ganglionic

nerves, and the nictitating membrane is hypersensitive in response to injected non-epinephrine.

From these data, the conclusion is reached that 5864-SU prevents release of the transmitter substance from post ganglionic sympathetic nerves or prevents its diffusion to the effector cells, but does not block the receptor site in the effector (smooth muscle) cells, or produce ganglionic blockade.

SUMMARY

Octahydro azocinyl ethyl guanidine (suanethidine) has demonstrated dramatic hypotensive effects in 18 hospitalized patients with severe hypertensive disease. The agent is slow in onset of action, has a duration of action approaching two weeks, and has novel chemical structure and pharmacologic action. It does not produce the parasympatholytic side effects characteristic of ganglionic blockade.

Though the number of patients and duration of follow-up are inadequate to determine its final role in the treatment of hypertension, the potency of the agent suggests further evaluation of its usefulness to be indicated.

Postural hypotension was a common accompaniment of administration, and limited the reduction in blood pressure in the supine position, but marked reduction of standing blood pressure was achieved in all 18 patients, each of whom had severe hypertensive vascular disease. Side effects, diarrhea and nausea, were mild. No evidence of severe toxicity was noted in follow-up periods of 3 to 8 weeks.

Acknowledgement

Grateful appreciation is expressed to Dr. Gordon Cavell for performance of cardiac output studies; to nurses of the cardiovascular service under the direction of Miss Elizabeth Heritage and Miss Marion Matthews; and for the capable technical assistance of Mrs. Marjorie Stephenson, Mrs. Betty Cauthorne and Misses Mike Andre, Carol Alcock and Virginia Stewart.

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Plastic Film

Because of recent accidents occurring from children playing with plastic bags found in the home, the Richmond Pediatric Society is desirous of disseminating information to parents in order to prevent further deaths.

It has accordingly been suggested that members

of the Society place in their waiting rooms appropriate publicity on the subject. This is available in a pamphlet called, "Plastic Film, Correct Use and Misuse", copies of which may be obtained by writing to: Society of Plastic Industries, 250 Park Avenue, New York City.

Popliteal Aneurysms

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POPLITEAL ANEURYSMS are of considerable importance because it has long been known that these lesions carry an extremely poor prognosis for the life and function of the limb unless they are properly treated.

Austin and Thompson⁴ have divided the method of management of popliteal aneurysms into five periods.

The first period is the pre-Hunterian era which extended from ancient times until 1785 and was primarily an era of amputation. Mr. Everard Home,¹² in writing his friend, Dr. Simmons, in 1785, gave an account of Mr. John Hunter's method of performing the operation for the popliteal aneurysm. Hunter ligated the femoral artery in the thigh on December 12, 1785, and this probably represents the first definitive treatment for a popliteal aneurysm. The Hunterian ligature was the method of choice for definitive therapy for the next hundred years.

Then in 1888, Dr. Rudolph Matas^{23,24} of New Orleans developed the operation of endoaneurysmorrhaphy. Dr. Matas²² reported in 1920 in *Surgery, Gynecology and Obstetrics* a series of one hundred sixty-four operations for popliteal aneurysms with only one death and only eight cases of gangrene. It is of interest to Virginians that Dr. J. Shelton Horsley, Sr., and Dr. C. C. Coleman, Sr., of Richmond, were working in this field also and commented favorably upon Dr. Matas' work.

In 1931 Mulvihill and Harvey²⁶ at Yale conducted very extensive and excellent studies on collateral circulation. They showed that lumbar sympathectomy increased the blood flow and collateral circulation development of an extremity. Lumbar sympathectomy became an established addition to the endoaneurysmorrhaphy surgical procedures in 1934, opening the fourth period of management.

The era of vascular grafting began in 1954. Actually the work of Dr. Robert Gross in Boston on vascular grafting for coarctation of the aorta formed

the basis for this tremendous step forward in the management of popliteal aneurysms.

The incidence of popliteal aneurysms is unknown, because the popliteal fossa is not usually examined at autopsy. Throughout the years a surprising number of these aneurysms have been reported in the literature. In 1847 Crisp reported five hundred fifty-one cases of aneurysms, twenty-five percent of which arose from the popliteal artery.²⁹ Subsequently, Matas²² reported his rather extensive experience. Mont Reid³⁰ analyzed all the aneurysms in the Johns Hopkins Hospital in 1926 and found sixteen cases of popliteal aneurysms.

It is certainly true that popliteal aneurysms are less frequent than aortic aneurysms and are more commonly found in older men.³⁶ They are often associated with other aneurysms, particularly those in the abdominal aorta. Sometimes popliteal aneurysms are bilateral.

The etiology of these aneurysms is usually arteriosclerosis.^{10,15,19,28} A lesser percentage are traumatic. The majority of the traumatic aneurysms are related to external trauma, but there are some aneurysms of the popliteal artery due to orthopedic problems, such as exostoses, osteochondromata, etc.^{14,27,32} A very few of these aneurysms are syphilitic, mycotic^{9,23} or congenital. Frequent bending may be a factor in the development of popliteal aneurysms.

The majority of the arteriosclerotic aneurysms in the popliteal fossa are true aneurysms, while the traumatic ones are usually false. Figure 1 illustrates that a true aneurysm is one in which the wall is weakened and dilated, whereas the wall of the false aneurysm is actually formed by the adjacent tissues.²

The diagnosis of this condition should not be very difficult. The patient will often give a history of claudication or of a popliteal mass. They may be pain due to pressure on the adjacent nerves. Physical examination is most readily performed with the knee flexed approximately 30 degrees, as this position relaxes the tendons and muscles of the popliteal area and allows easier palpation of the popliteal artery itself. A firm mass can usually be felt in the popliteal area with expansive pulsation. Auscultation should then be carried out and in the typical aneurysm a systolic bruit can be heard. If the

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aneurysm has undergone thrombosis there will be no definite pulsation or murmur. The diagnosis is further aided by the presence of various complica-

tions of the aneurysm which will be discussed later. It is important that the vascular and neurological status of the extremity distal to the aneurysm be noted.

Routine x-rays of the area should be taken to rule out orthopedic conditions. Special studies are not usually needed.³⁵ Oscillometer readings and skin temperature studies are interesting but not absolutely necessary. In some cases a femoral arteriogram should be done primarily to evaluate the outflow pattern distal to the aneurysm. However, the majority of patients do not need a femoral arteriogram and these contrast media studies should not be performed routinely because of the risks attached to them. Not only is there the danger of various reactions to the intraarterial dye injection but also subsequent difficulties such as skin necrosis may occur.

The most common popliteal masses are of a cystic nature. Bursas may be found and simulate a popliteal aneurysm. A Baker's cyst is a common malady in this area. On rare occasions greatly dilated varicose veins may be mistaken for a popliteal aneurysm.

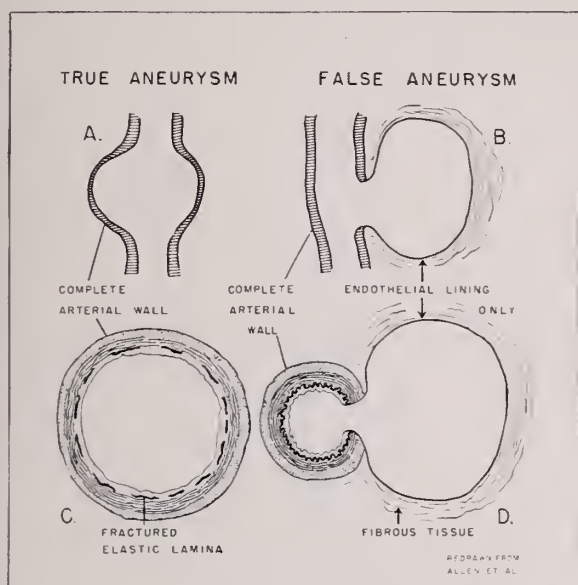


Fig. 1

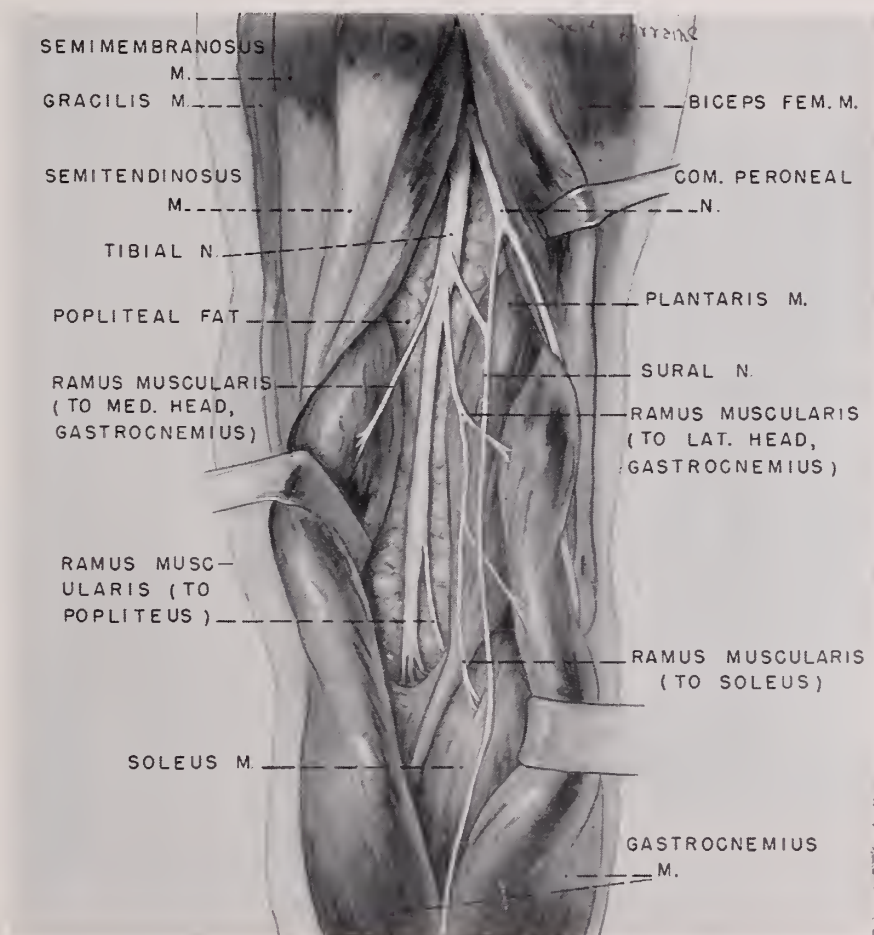


Fig. 2

These veins are usually a part of the lesser saphenous system and not of the greater system. Some infections in the popliteal area may be mistaken for an aneurysm. Soft tissue tumors are rare in this area but do occur and neurogenic tumors and muscle tumors should always be considered in the differential diagnosis. Routine x-rays of the popliteal area will usually rule out abnormalities of the bone but bone tumors and infection are important considerations.

Before discussing the therapy of popliteal aneurysms it is important to briefly review the anatomy of this area.^{11,18} The popliteal space is a lozenge shaped space formed by the hamstring muscles and the two heads of the gastrocnemius muscles. Figure 2 shows the more superficial dissection of the popliteal area and mainly illustrates the division of the sciatic nerve into the posterior tibial nerve and the common peroneal nerve. These nerves are the most important superficial structures in the popliteal space.

Figure 3 shows a deeper dissection of the popliteal area and illustrates that the popliteal artery is the deepest structure in this area. The nerve is the most superficial with the vein being intermediate, and the popliteal artery itself lies at the base of the space.

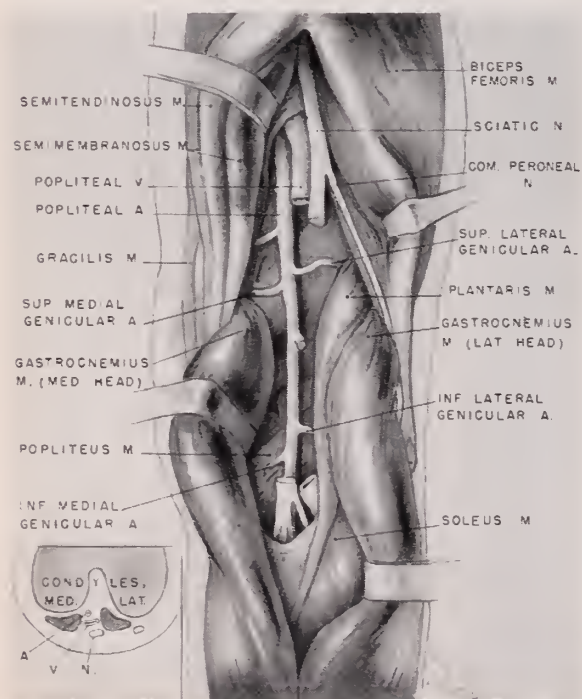


Fig. 3

Dr. Jere Lord,²¹ of New York University Postgraduate Medical School, has recently reviewed the clinical behavior and operative management of pop-

liteal aneurysms. He has called attention to the importance of the collateral circulation about the knee. Figure 4 shows that this collateral circulation is primarily formed by the superior genicular arteries and the inferior genicular arteries.

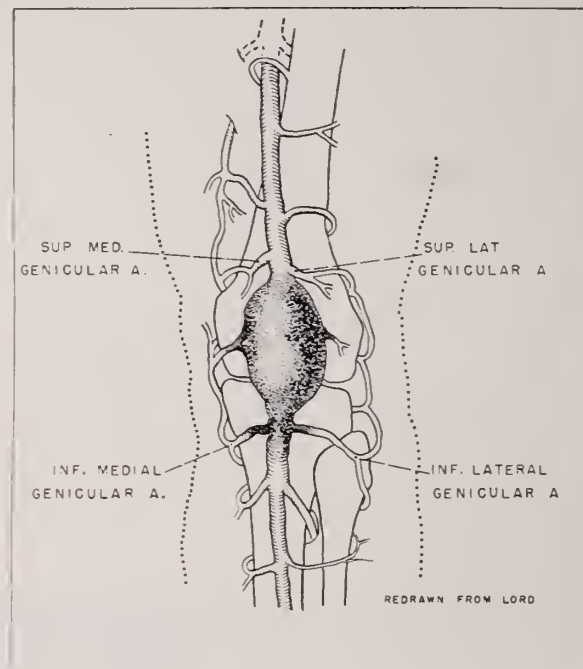


Fig. 4

There are five major complications of popliteal aneurysms which are illustrated in Figures 5-9. These complications are important in making the diagnosis and also of considerable significance in the therapy and prognosis.

Ormand Julian and his group¹⁷ in Chicago have placed considerable emphasis on the obstruction of the anterior tibial artery which results from elongation of the popliteal artery as the aneurysm grows. This is illustrated in Figure 5.

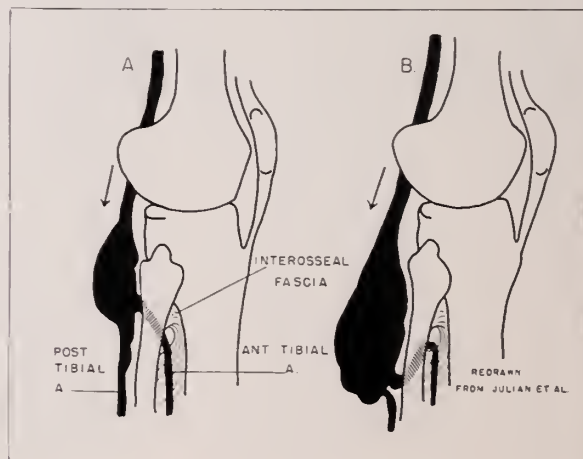


Fig. 5

Another possible complication is a total thrombosis of the aneurysm resulting in ischemic gangrene of the foot. This is illustrated in Figure 6.

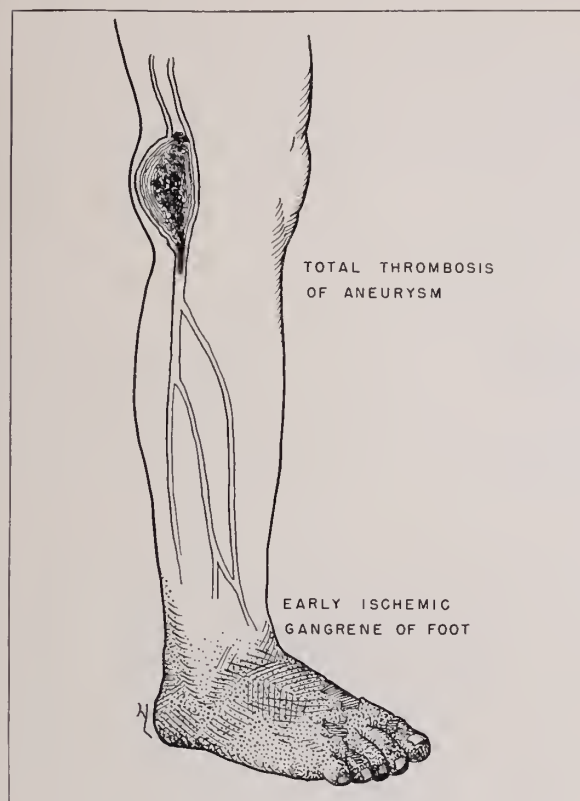


Fig. 6

Another difficulty that may arise is that the aneurysm will grow to such a size that it will partially or totally occlude the adjacent popliteal vein and result in edema of the lower leg and foot. This is illustrated in Figure 7.

In some aneurysms which develop a mural thrombus, the small particles of the thrombus break loose and become emboli in the posterior tibial or anterior tibial artery. This may result in gangrene of the area supplied. This is illustrated in Figure 8.

One of the most dreaded complications is, of course, rupture of the aneurysm itself. This is illustrated in Figure 9.

Because of these five potential complications it is felt that surgical therapy is the treatment of choice for all cases of popliteal aneurysms.^{16,20} Even patients in poor general condition can be managed satisfactorily surgically under spinal, epidural, or even local anesthesia.

A pneumatic tourniquet has no place in the surgical treatment of this problem.

Figure 10 shows the proper positioning of the

patient for the posterior approach to the popliteal space. In the direct surgical approach to arteriosclerotic peripheral arterial occlusive disease in

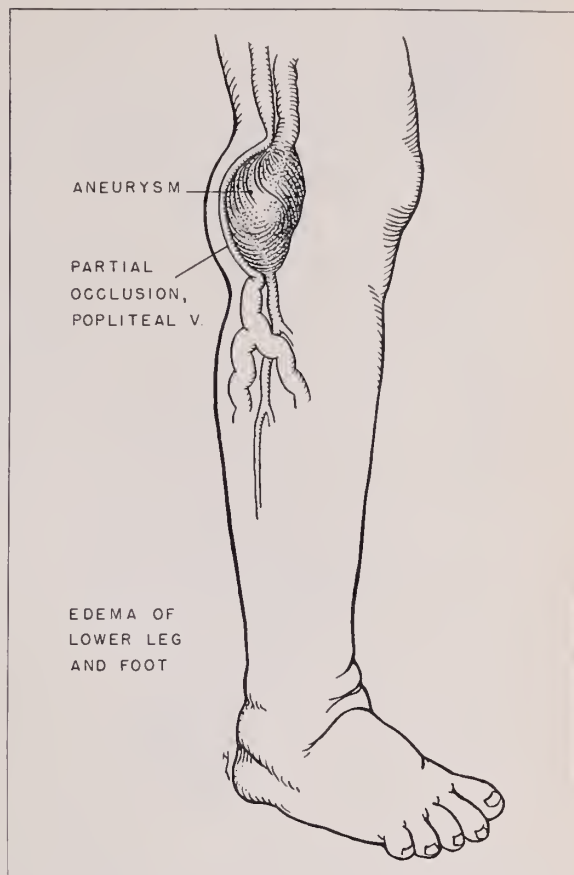


Fig. 7

which bypass grafting is contemplated, the medial approach to the popliteal artery is of considerable value but in aneurysm surgery the posterior approach gives much better exposure.^{5,25}

The incision is made so that it is curved in the region of the skin creases to avoid any postoperative contracture. After the skin incision is made, some short, but thick, flaps are developed. It is quite important that these flaps be thick, as postoperative skin edge necrosis often occurs when the flaps are too thin. Then the fascia is opened and the popliteal space is dissected out. Control of the artery above and below the aneurysm is to be obtained first, prior to dissection of the aneurysm itself.

Figure 11 shows the sciatic nerve and its branches having been dissected out and carefully retracted. The popliteal vein has been dissected away from the aneurysm and is carefully protected. Incidentally, in some cases the vein may be quite adherent to the aneurysm and it may be necessary to leave a portion

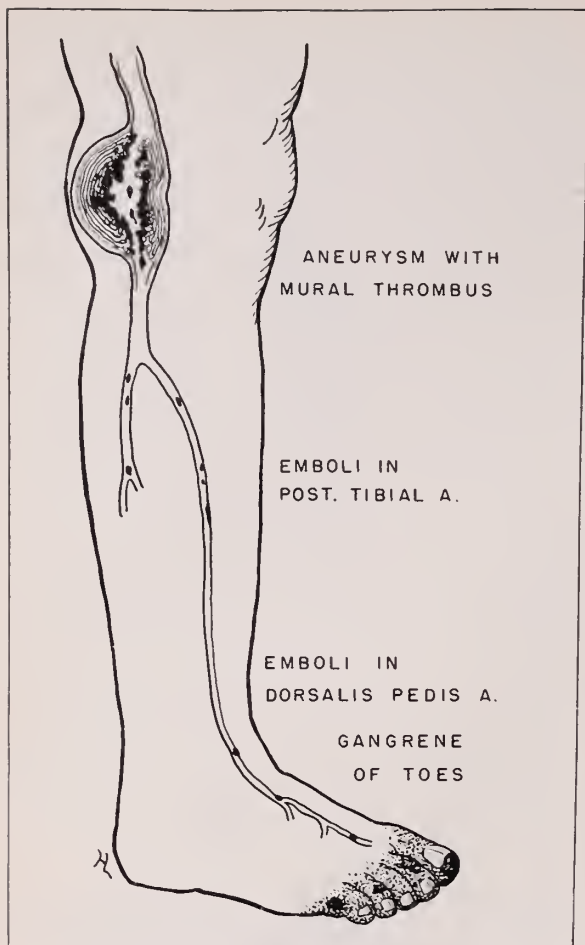


Fig. 8

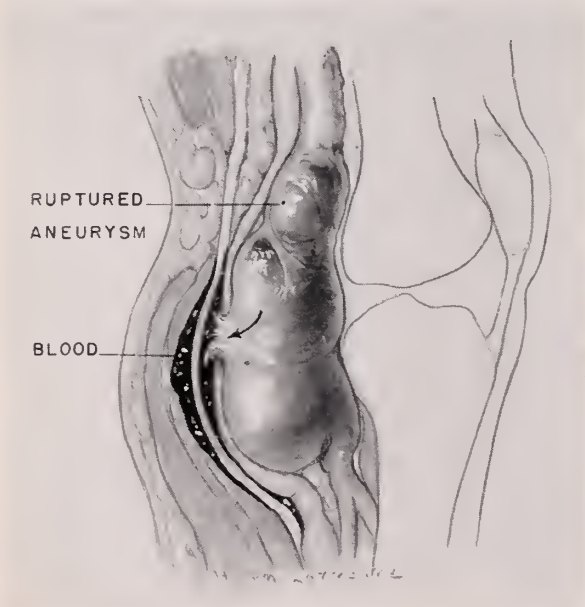


Fig. 9

of the aneurysm on the vein. Then the aneurysm itself is freed up with care being taken to dissect close to the aneurysm so as not to destroy any of

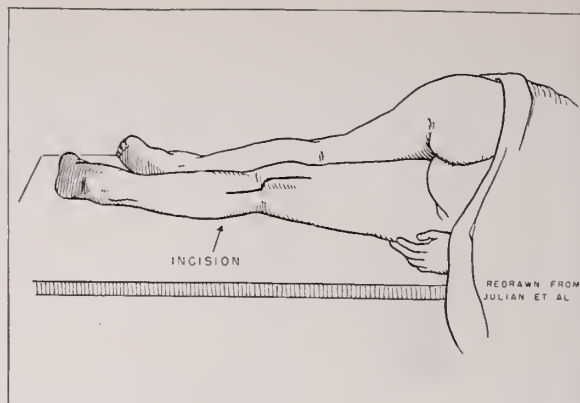


Fig. 10

the valuable collateral circulation. Gentle handling of the vein is essential to lessen the incidence of postoperative venous thromboembolic disease. After the area is well exposed, then the exact mode of surgical therapy must be decided upon.

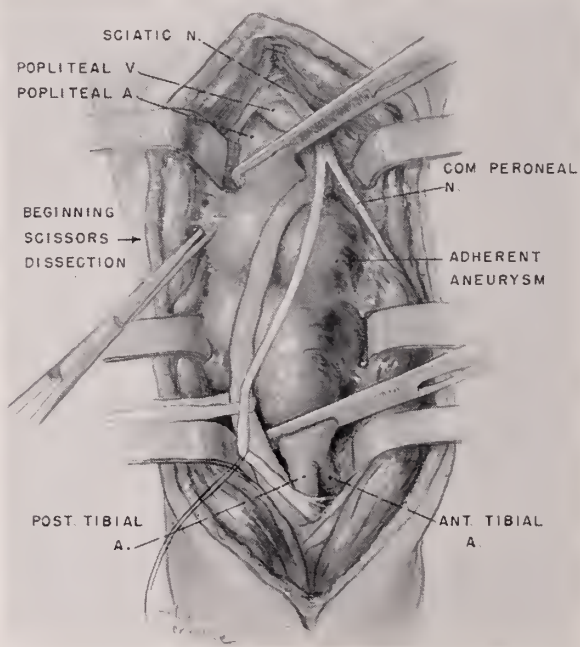


Fig. 11

The Matas endoaneurysmorrhaphy procedure still has a place in the management of popliteal aneurysms.¹³ There are actually three of these procedures available, the first being the obliterative endoaneurysmorrhaphy in which the aneurysmal sac is sutured down so as to close the lumen and crush the aneurysm. The restorative endoaneurysmorrhaphy and the reconstructive endoaneurysmorrhaphy eliminate the aneurysm but leave a patent arterial channel. These are shown in Figure 12.

Probably the most popular method of treatment at the present time is excision of the aneurysm and restoration of the arterial continuity by means of a vascular graft.^{1,3} Figure 13 illustrates the types

preferred material still varies between orlon, dacron and teflon.

Certain ancillary surgical procedures are important. The first of these is lumbar sympathectomy.

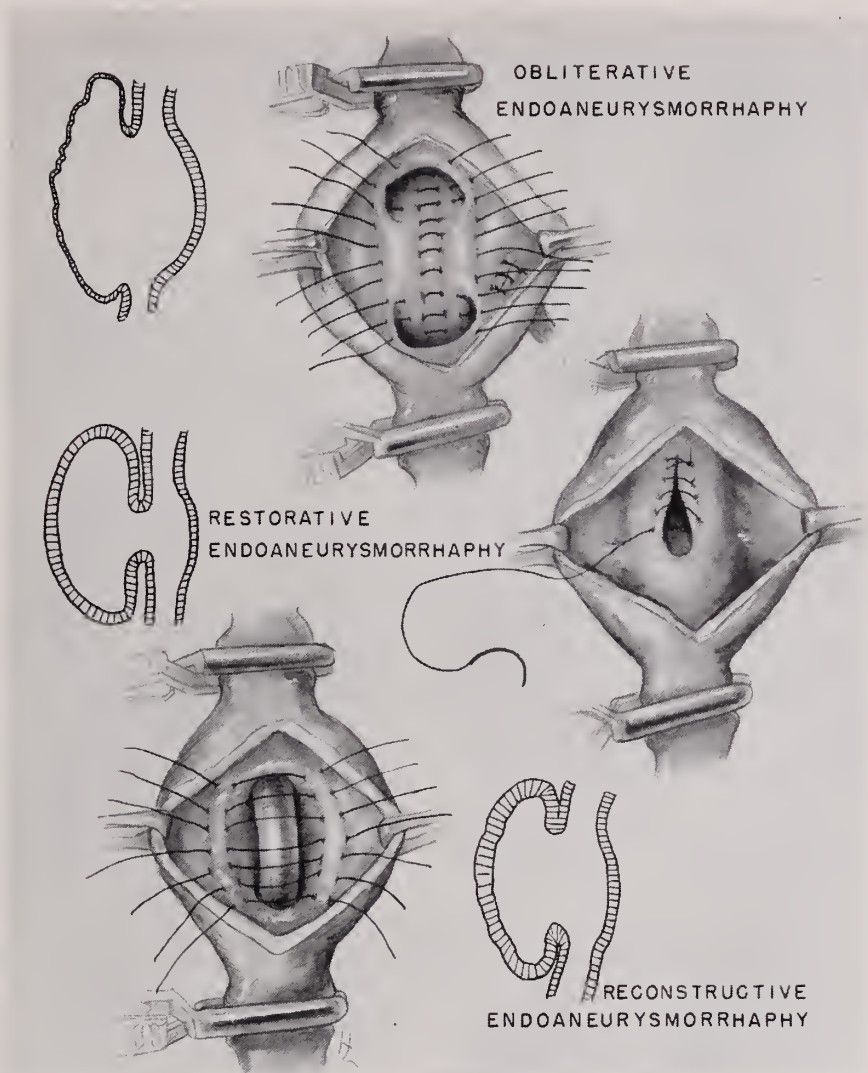


Fig. 12

of vascular grafts which are available. These are the autologous graft of which the venous graft is more practical than the arterial. Venous inlay grafts are sometimes of value. The homologous arterial graft is the most used one at the present time.³⁴ The prosthetic grafts are of considerable value and will probably supplant the homologous arterial graft as the most suitable replacement material. There is considerable work underway to determine the best of these artificial grafts. The Tapp-Edwards principle of accordion-like pleating has become relatively well standardized but the exact composition of the

In cases in which the vascular continuity cannot be restored and good peripheral pulses are not present, then a lumbar sympathectomy is of considerable value.³¹ In cases where there has been total thrombosis of the aneurysm with no peripheral pulses distal to the aneurysm, it might be wise to do a preliminary lumbar sympathectomy, followed later by one of the Matas procedures.⁶

Postoperative anticoagulants are important and these may be administered either systemically or by local intraarterial drip. No definite generalization can be made concerning the length of time to

administer anticoagulants but certainly anticoagulant therapy during the hospital stay and in the immediate postoperative course is of value. The anticoagulants serve to lessen the venous complications

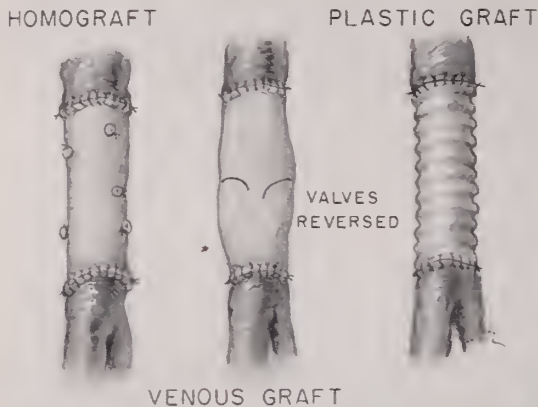


Fig. 13

secondary to the aneurysm and secondary to the surgical dissection in the region of the popliteal vein.

Of course, all patients who have had peripheral vascular surgery should be taught the importance of good foot hygiene, proper fitting shoes, abstinence from tobacco, etc.

Amputation has no place in the therapy of popliteal aneurysms except as a last resort.

Three cases will be cited briefly to illustrate and summarize the problem.

The first case was R.M., a 61 year old colored male, who had a popliteal aneurysm which was excised and vascular flow restored through an autologous saphenous vein graft. The patient has maintained good peripheral pulses and has done well except for some chronic edema which has responded nicely to conservative management consisting primarily of an elastic stocking, elevation and low salt diet.

The second case was F.L., a 65 year old white male, whose totally thrombosed popliteal aneurysm was excised and a lumbar sympathectomy was done. The arterial continuity could not be restored due to distal vessel thrombosis. The postoperative result has not been good in this patient as he still has calf pain after walking one block. Possibly this patient would have been better managed by preliminary lumbar sympathectomy followed at a later date by a Matas obliterative endoaneurysmorrhaphy.

The third patient was F.C., a 61 year old white

male, who was found to have a popliteal aneurysm with good pulses below. This partially thrombosed aneurysm was excised and an end-to-end arterial homograft was inserted. This patient has had an excellent postoperative course with excellent peripheral pulses. He seems to have been entirely rehabilitated.

Therefore, in summary, it should be stated that popliteal aneurysms are more frequent than commonly believed. They are easily diagnosed primarily by physical examination. The potential complications are obstruction of the anterior tibial artery, total thrombosis, popliteal venous obstruction, distal embolization and rupture. Because of these potential complications, surgery should be the treatment of choice. The ideal surgical therapy is excision of the aneurysm and restoration of the vascular continuity by a graft.

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Dentist Visits

City people see their dentist more often than do their country cousins, reports the Health Insurance Institute.

Dental care statistics from the Government's National Health Survey Program covering the year from July 1957 to June 1958 show that city residents go to a dentist an average of 1.9 times a year as compared to 1.2 visits a person per year among the rural population. This makes for a national rate of 1.6 dental calls annually.

A more detailed survey by the U.S. Public Health Service has found that only 36%, or 61 million persons, saw a dentist during the year under study.

Women seemed to be more mindful of the need

for dental care than men, the Survey also showed. The proportion of females who visited a dentist was 38%, as against a rate of 34% among males.

The number of persons who have no teeth total nearly 22 million in the U.S., about 13% of the population.

The eventual price of this dental neglect is reflected in the fact that Americans had an estimated 1958 dental bill of \$1.8 billion.

The Survey data disclosed that the most common work done at the dentist's office was drilling-and-filling. In about 43% of the dental visits, fillings were done. Some 17% of visits were for extractions and 10% of visits were for cleanings.

Problems Presented by the Jaundiced Newborn

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AT THE PRESENT TIME there is a revival of interest in pediatric circles in the problem of hyperbilirubinemia. It seems appropriate, therefore, to report a study of infants from a large teaching center who presented clinical jaundice during the newborn period. The charts of all infants born during 1957 at the Medical College of Virginia Hospitals or admitted under one month of age who developed significant jaundice in the neonatal period have been reviewed. During this year, a total of 161 children manifested jaundice of such degree as to warrant special attention by their physicians. This was greatly facilitated by the use of the microbilirubin determination¹. These patients are evaluated as to the etiology of their jaundice and their management is reviewed in the light of current concepts of therapy. This is merely a retrospective study of the records of previously admitted infants and is not a complete clinical investigation.

HISTORICAL

Considering the fact that approximately two-thirds of all newborn infants will manifest jaundice in the neonatal period, it is not surprising that investigators have delved into the causes of this phenomena. In 1913 Ylppo² and Hirsh³ published works on neonatal hyperbilirubinemia recognizing its common occurrence and variability of degree. Bela Shick emphasized the large part played by the placenta⁴. Twelve years ago, Dr. Weech's classic lecture on the "Genesis of Physiologic Hyperbilirubinemia" viewed it as an "explosion which marked the infant's entry into the world" and discussed the causes for the amazing phenomena⁵. Further investigation by Hsia, Gellis, and co-workers⁶ on the variations and durations of jaundice in full term and premature infants has added understanding. Recently Holman⁷ has compared Negro and white infants and has re-emphasized the longer duration of hyperbilirubinemia in the more immature infant.

Non-jaundiced infants excrete bilirubin and urobilin in their stools from birth. Snelling⁸ found this excretion to be delayed in jaundiced babies and

increased as their jaundice faded after the third day. Numerous studies by Driscoll,⁹ Billing,¹⁰ Lathe,¹¹ and others now suggest that functional immaturity of the liver enzyme system is the major factor present. Jaundice is usually not evident until the blood level is 4 mg.%. In many cases it is not easily visible then.

An understanding of the other causes of jaundice in the newborn period which requires active therapy is essential. If the onset is under 48 hours, detailed study is required. The problem of erythroblastosis fetalis with its incompatibility between the blood groups of the mother and child has been understood almost 20 years. During this period, not only Rh sensitization has been clarified, but the more elusive ABO incompatibilities have also emerged in a more definite pattern. Even the rarer blood groupings can be checked in major laboratories and any existing incompatibilities determined. The indications for replacement transfusion and its urgency in these cases is better appreciated.

Kernicterus may be a complication in 15% to 30% of untreated erythroblastotic infants and may kill 70% of these, but kernicterus is not exclusively a complication of Rh and ABO incompatibilities. Indeed, it has been found in association with other causes of hyperbilirubinemia such as sepsis and severe physiologic jaundice. Zuelzer¹³ in a study of 55 cases of kernicterus found that over half were caused by problems other than Rh erythroblastosis.

The combination of sepsis and prematurity makes for a particularly difficult problem. An immature brain with an immature liver to excrete bile must be unusually vulnerable. Vaughan,¹⁴ Harris,¹⁵ and others have shown that jaundice may be great in proportion to anemia so that one cannot predict kernicterus infallibly, although prematurity and a high intensity of maternal sensitization are guides. Recent studies by Nasralla and co-workers¹⁶ appear to confirm the theory that an increased incidence of kernicterus occurs in prematures because of the greater permeability of the blood-brain barrier for indirect bilirubin. Drugs such as sulfonamides¹⁷ and the excessive use of vitamin K¹⁸ have been incriminated

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as aggravating factors in kernicterus especially in immature infants where this blood-brain barrier is vulnerable.

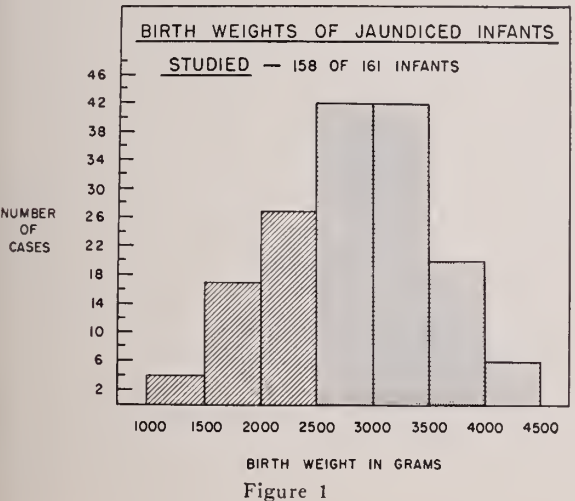
Miller and Reed¹⁹ have shown recently in a study that anoxia may predispose to kernicterus and death when associated with hyperbilirubinemia. This observation would appear to be related to that of Brown and Zuelzer²⁰ who have shown that the concentration of bilirubin correlates significantly with the degree of cyanosis. It would seem then that some factor, perhaps that of hypoxia, has a part in the development of kernicterus in addition to the absolute level of indirect bilirubin.

MATERIALS AND METHODS

From January 1 to December 31, 1957, a total of 6,075 infants were delivered in the hospitals of the Medical College of Virginia. These infants were divided as shown in Table I.

TABLE I			
BIRTHS MCV 1957			
Term White	2,367	Premature White	156
Term Negro	3,226	Premature Negro	326
Total Term		Total Premature	482
Grand Total All Births		6,075	
Incidence Negro Premature		10.1%	
Incidence White Premature		6.5%	
Overall Premature Incidence		8.6%	

During this period of time, a total of 161 babies presented clinical problems of jaundice during the first month of life. Ten of the infants included in the study were outside deliveries admitted to the hospital during the neonatal period. The group studied was composed of 80 white infants and 81 Negroes. Seventy-three of the babies were male; 88 were female.



Birth weights were obtained on 158 of the 161 infants in the study and are shown in Figure 1. The range in weights was from 1,000 gm. for the smallest infant in the study to 4,250 gm. for the largest. Approximately 30% of the total group was of a weight less than 2,500 gm., and thus, for the purpose of this study considered premature.

In reviewing the records of the 161 infants in the jaundiced group, an attempt was made to establish the etiology of the hyperbilirubinemia in all cases (Table II).

TABLE II
PROVEN OR PRESUMPTIVE ETIOLOGY OF JAUNDICE
161 Infants

"Physiologic" Jaundice	103
Erythroblastosis	
Due to Rh Incompatibility	27
Due to ABO Incompatibility	12
	39
Jaundice due to Sepsis	20
Inspissated Bile Syndrome	3
Hepatitis	1
Biliary Atresia	0
Total	166

As sulfonamides and high doses of vitamin K are not used during the neonatal period in this hospital, no cases of jaundice associated with these agents were observed. In several of the infants in the series, more than one of these factors was believed to apply. One infant developed the inspissated bile syndrome following hyperbilirubinemia due to ABO incompatibility; two others developed the inspissated bile syndrome following sepsis. Other patients were thought to become intensely jaundiced because of sepsis coupled with neonatal physiologic jaundice. Many of the diagnoses were made from an entirely clinical standpoint.

All of the infants who were hospital deliveries were examined by the newborn service during the first 24 hours of life or by their private pediatrician. This group of jaundiced infants, then, was composed of all who were sufficiently icteric to have been so charted and/or all infants in whom the bilirubin determination when drawn was found to be in excess of 3 mg. % total.

PHYSIOLOGIC JAUNDICE

The jaundice apparent in 103 of the infants studied was thought to be of physiologic origin. When one considers that slightly over 6,000 infants were delivered during the period of time covered in this report, the finding of physiologic jaundice in

only 103 infants or 1.7% seems a very low figure indeed. The usually stated incidence of physiologic jaundice is from 30 to 80% of all newborns. Such a discrepancy is explained by several factors. First, the diagnosis of jaundice was not listed at the time of discharge on many infants who showed only mild icterus, and their charts were not coded. Secondly, many infants who showed faint jaundice especially after 36 hours of age were not subjected to bilirubin determinations if the origin of their jaundice was believed to be physiologic. Thirdly, most normal newborn Negro infants born in St. Philip Hospital are discharged home on the second day of life, and thus, jaundice which appears after this time goes undetected.

Fifty-nine of the physiologically jaundiced infants were white, 49 were Negro; 45 were male, 58 were female. The range in weights for these infants is shown in Figure 2. The infants of premature

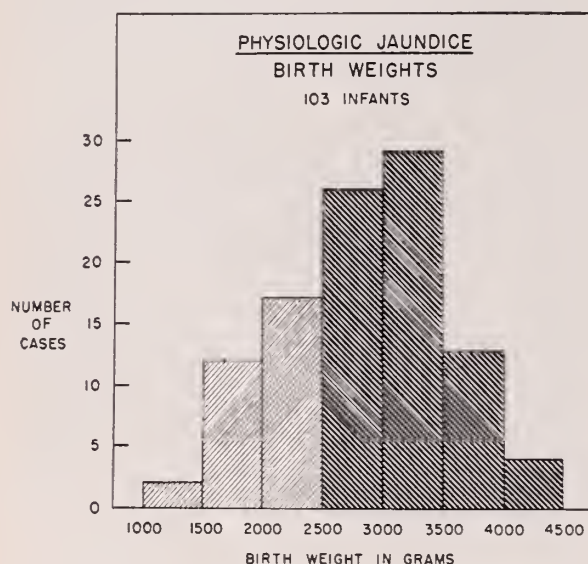


Figure 2

birth weight represented approximately 31% of the total group.

In view of the common feeling that clinical jaundice of physiologic origin is seldom manifested under 36 hours of life,²¹ the 103 infants in this group were reviewed relative to the hour of life at which icterus was first detected (Table III). Twenty of the 103 infants were detected as being icteric prior to 36 hours of age. Six of the infants or 5.5% showed clinical jaundice during the first 24 hours of life.

Serum bilirubin determinations were done at least once on 76 of the infants and on many of them multiple determinations were done. The maximum

TABLE III
PHYSIOLOGIC JAUNDICE
ONSET OF VISUALLY APPARENT JAUNDICE
103 Infants

Under 12 hours of age	0
12 - 24 hours of age	6
24 - 36 hours of age	14
36 - 48 hours of age	8
48 - 72 hours of age	28
72 - 96 hours of age	18
Over 96 hours of age	29
Total	103

bilirubin level attained in these infants is shown in Table IV. Thirteen of the 76 babies (17%) attained

TABLE IV
PHYSIOLOGIC JAUNDICE
MAXIMUM TOTAL SERUM BILIRUBIN ATTAINED
76 of 103 Infants

0 - 5 Mg.%	5
6 - 10 Mg.%	20
11 - 15 Mg.%	26
16 - 20 Mg.%	12
21 - 25 Mg.%	10
26 - 30 Mg.%	3
Over 30 Mg.%	0
Total	76

a maximum bilirubin level in excess of 20 mg.%. This is not inconsistent with the diagnosis of physiologic jaundice, particularly in a group in which 31% of the infants were premature. It is higher than usually seen in term babies. None of the infants received replacement transfusions. As far as can be determined from this short term follow-up and with the exception of the child next described, none of the other infants have shown any ill effects from their hyperbilirubinemia.

One death did occur in this group. The case was that of a 1,000 Gm. Coombs negative infant born of a type O, Rh positive mother. Jaundice appeared at 72 hours of age; the maximum total bilirubin level attained was 20 mg.%. The child seemed to improve clinically and she was not exchanged. She died suddenly under circumstances which may have pointed to aspiration. No necropsy was obtained. While it cannot be said with certainty from the information presented that this was not a case of erythroblastosis due to ABO incompatibility, the bilirubin range was in keeping with that of a normal premature infant of this birth weight.

ERYTHROBLASTOSIS DUE TO Rh INCOMPATIBILITY

A total of 27 infants were diagnosed as being

jaundiced clinically because of Rh incompatibility during the year 1957. The range in weights of these 27 infants was from a high of 4,250 Gm. to a low of 2,330 Gm. In these Rh incompatibility children, jaundice was first detected on physical examination at the 23rd hour of life on the average, the range being from the 2nd hour of life to the 50th hour. Thirteen of the infants or almost one half of them required replacement transfusion at least one time; one infant was exchanged two times; and two infants were exchanged three times. All of the exchange transfusions were done by the umbilical route and in no instance was serious difficulty with the exchange technique encountered. In general, a two volume replacement was attempted.

In 16 of the 27 infants in this Rh category, a cord bilirubin determination was made at the time of delivery. The range of total bilirubins done on samples of cord blood was from a low of 1.6 mg.% to a high of 7.6 mg.%. It was found that the average cord bilirubin on the infants who required an exchange was 4.6 mg.% whereas cord bilirubin on the infants who did not require exchanges was 1.8 mg.% total bilirubin. During the year studied, there were two deaths from Rh incompatibility. The first death was that of a premature infant born of Type O, Rh negative mother. A previous sibling had required a replacement transfusion. Maternal antibody titer was 1:128 prior to delivery. The infant's type was group B, Rh positive and a cord Coombs was 4 plus reactive. Serum bilirubin on the cord sample was 4.8 mg.% total. The child showed hydrops at birth and ceased one hour after delivery while preparations were underway for a replacement transfusion. Of particular interest are the cord blood hemoglobin determination of 3.7 Gm.% and the post-mortem findings of hepatomegaly, splenomegaly, anasarca and acites (200 cc.), anemia, and cardiac dilatation, secondary to anemia.

The other death believed attributable to Rh incompatibility was that of a premature infant born of a type O, Rh negative mother pregnant for the 16th time. She had previously delivered two stillbirths. Her antibody titer was 1:256. The infant was type O, Rh positive. Cord blood at the time of delivery revealed a hemoglobin of 14.0 Gm.% and a total bilirubin of 2.3 Mg.%. Coombs test on the cord blood was a 2 plus reaction. At the time of delivery, the child was noted to be extremely difficult to resuscitate and was apneic for a period of almost 30 minutes requiring manual resuscitation. At no time during life did this infant show adequate respirations.

Clinical jaundice became apparent at approximately the 50th hour of age, and the infant was exchanged at 55 hours when the pre-exchange bilirubin had reached a level of 15.8 mg.% total. The infant continued to show a downhill course and died approximately 60 hours after the exchange transfusion when the bilirubin was reported as 6.4 mg.% total. At post-mortem examination, there were findings compatible with the diagnosis of kernicterus. This case is particularly interesting in the light of recent work which has already been referred to relating to the roll of hypoxia in relation to hyperbilirubinemia in the production of kernicterus.

ERYTHROBLASTOSIS DUE TO ABO INCOMPATIBILITY

During 1957, 12 infants at the Medical College of Virginia developed jaundice which was believed to be on the basis of ABO incompatibility. Undoubtedly, many mild cases of ABO incompatibility went undetected for the same reasons mentioned when discussing physiologic jaundice. Of the 12 infants studied, three were of premature birth weight. The smallest infant weighed 2,395 Gm., and the largest weighed 3,870 Gm. The average age of detected jaundice was 25 hours, the range being from one to 48 hours.

Four of the 12 babies with ABO incompatibility required replacement transfusions. They were exchanged at 60, 33, 18, and 30 hours respectively. None of the infants required a second exchange. There were no fatalities in the group, and none of the babies had shown evidence of neurological damage from hyperbilirubinemia at the time of discharge from the hospital.

SEPSIS

During the 12 month period covered by this study, 20 infants were thought to have sepsis as the basis for their overt clinical jaundice. Blood cultures were taken in each patient, but in only five of the infants was positive bacteriological isolation attained. It was felt, however, that such findings as unstable temperature curve, lethargy, anorexia, abdominal distention, and failure to gain weight, when combined with visible jaundice, justified the diagnosis of sepsis in spite of the lack of bacteriologic proof. In the five cases in which positive cultures were obtained, *E. coli* was grown from two patients, and *Staph aureus* coagulase positive was the offending organism in the other three. No growth was obtained on various types of cultures taken from the other 15 infants.

Thirteen of the twenty infants were of premature weight.

The average age at which jaundice was first detected was 6.5 days with the very wide range of from 36 hours of age to 26 days of age. Five of the 20 infants did not become jaundiced until after the first week of life.

As a possible source of the sepsis, Table V is of interest.

TABLE V
JAUNDICE DUE TO SEPSIS
Possible source of infection
20 Infants

Home Delivery	6
Cord Infections	5
Impetigo or Pyoderma	3
Membranes ruptured over 36 hours hospital delivery	3
Pneumonia	3
Genitourinary Infection	2
	22

Seven of the 20 infants in the septic group died despite vigorous therapy which included antibiotics in all cases. Of the seven who died, six were of premature weight.

The maximum bilirubin level attained by 18 of 20 infants with sepsis is presented in Figure 3.

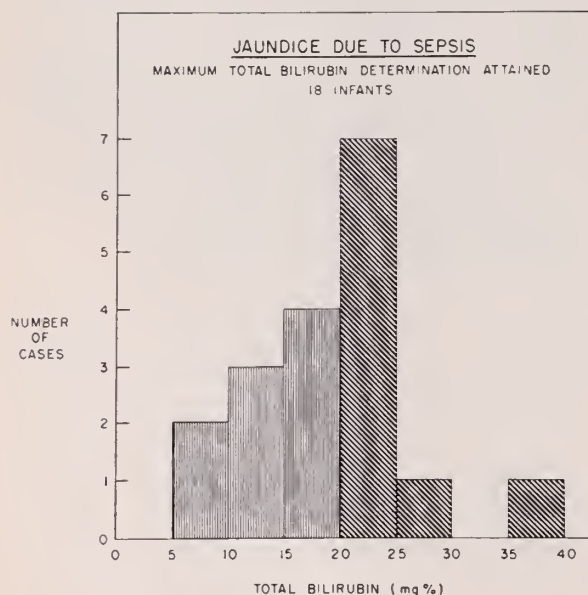


Figure 3

Nine of the infants or one half of them had a maximum bilirubin level in excess of 20 Mg.%, but none of the infants had exchange transfusions.

Since some authorities believe that a bilirubin level in excess of 20 mg.% is an absolute indication

for a replacement transfusion regardless of the infant's weight and regardless of the cause of the jaundice, one wonders if such a procedure might have been life saving in some of these patients. Figure IV shows the maximum bilirubin value attained in six

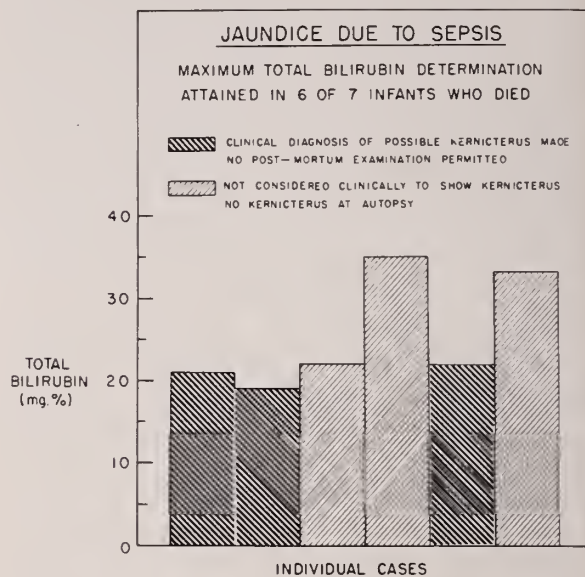


Figure 4

of the seven babies who died. In three infants, the diagnosis of kernicterus was suspected clinically but was unsupported since permission for necropsy was denied. In three other cases with equal or higher bilirubin levels, there was no evidence of kernicterus at the time of necropsy. It can be said that kernicterus did not occur as a result of excessively high levels of indirect bilirubin in these patients, and thus, a replacement transfusion would not have altered their ultimate prognosis. There is an insufficient number of cases here to warrant any general conclusions on this matter. Septic infants, particularly those in the premature weight range, may not tolerate a procedure such as an exchange transfusion. The statistical chance of developing kernicterus from hyperbilirubinemia may be less than that of the morbidity and mortality associated with a replacement transfusion under these adverse conditions.

SUMMARY

Of the slightly more than 6,000 children who were either born in or admitted to the hospitals of the Medical College of Virginia during their neonatal period in the year 1957, 161 babies were sufficiently jaundiced to warrant diagnostic studies. In the majority of those studied (64%), the jaundice was found to be of "physiologic" nature only, such diag-

nosis being supported in these cases by the benign course and lack of noticeable morbidity.

A total of 39 infants showed jaundice in association with erythroblastosis due either to Rh or ABO incompatibility. The generally accepted methods of treatment with replacement transfusions in 17 babies were satisfactory, and only two deaths occurred, these in infants severely ill at birth.

During 1957 the only infant proven to have kernicterus at necropsy at the Medical College of Virginia was an erythroblastotic premature infant whose total bilirubin never exceeded 16 mg.% but in whom hypoxia was evident.

The 20 infants with jaundice thought to be of septic origin were of particular interest. In this group, the incidence of prematurity and death was striking. Seven of the infants died in spite of antibiotic therapy, the maintenance of fluid and nutritional requirements, and general supportive care. Two of these infants, however, were moribund on arrival from home and died within nine hours of admission.

The chief cause of morbidity and mortality among jaundiced infants at MCV during the year studied, and the factor which is thought to have been responsible for 70% of the deaths of all jaundiced infants under one month of age was sepsis, particularly sepsis when coupled with prematurity. Vigorous therapy which, however, did not include exchange transfusion appeared to be notably unsuccessful in these severely ill patients.

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Poisonous Snakebites Resulting in Lack of Venom Poisoning

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A POISONOUS SNAKEBITE accident generally is considered a medical emergency. Some physicians have difficulty in identifying poisonous snakes even when the victim brings the snake to the hospital. Moreover, oftentimes it is not easy to distinguish the wound produced by a venomous snake from that produced by a harmless snake. Most people believe that bites inflicted by poisonous snakes invariably result in venenation (venom poisoning). The purpose of this report is to discuss ways to identify the poisonous snakes found in the United States, to review the signs and symptoms of snake venom poisoning, and to describe the phenomenon of bites by poisonous snakes which result in no venom poisoning whatsoever. Obviously, the treatment of a poisonous snakebite resulting in acute venom poisoning would differ from the treatment of a poisonous snakebite resulting in no venenation. The latter type of poisonous snakebite would be treated more like a non-poisonous snakebite.

Porges¹ estimated that between 2,000 and 3,000 persons are bitten by poisonous snakes each year in the United States. However, there are no reliable statistics on the incidence of snakebites in this country, and Porges' estimate may be far too low. Parrish² reported that there were 71 deaths resulting from poisonous snakebites in this country during the period from 1950 through 1954—an average of about 14 deaths per year. Most of these fatal snakebites happened in the southern and southwestern states.

POISONOUS SNAKES

The poisonous snakes indigenous to the United States include the Crotalidae or pit vipers and the Elapidae or coral snakes. The genera of pit vipers are the *Crotalus*, or rattlesnakes; the *Ancistrodon*, or moccasins (including the copperhead moccasin and the cottonmouth moccasin); and the *Sistrurus*, or pigmy rattlesnakes. The characteristic features of pit vipers (rattlesnakes, cottonmouth moccasins and copperhead moccasins) are shown in Figure 1. The

pit vipers may be identified by a deep pit (hence the name, pit viper) which is located between the eye and the nostril, by elliptical pupils and by well-developed fangs which protrude from the maxillae.

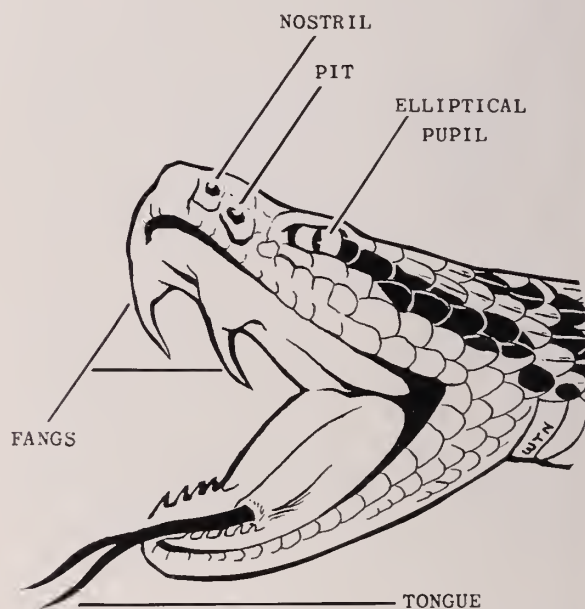


Figure 1—Head of a Pit Viper, Showing Facial Pits, Elliptical Pupils, and Fangs. (Courtesy Wilfred T. Neill, Silver Springs, Florida)

Rattlesnakes have rattles which are located on the tail. Other pit vipers and non-poisonous snakes lack rattles. Harmless snakes have teeth but do not have fangs, they lack the pit between the eye and nostril, and their pupils are round.

The coral snake is a brilliantly colored small snake which has broad rings of scarlet and black separated by narrow rings of yellow. The important feature to remember is that the *snout is always black*. Several species of non-poisonous snakes resemble coral snakes but their snouts are usually red or gray. In coral snakes the red rings are bounded by yellow rings—"red next to yellow will kill a fellow" whereas in harmless snakes the red rings are bounded by black rings. Coral snakes have short fangs but, in contrast to the pit vipers, they have no facial pits

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and their pupils are round. A coral snake is shown in Figure 2. Coral snakes are found only in the southern and southwestern states. They inflict less than two per cent of all the poisonous snakebites in this country.



Figure 2—Coral Snake (*Micrurus fulvius*), a Beautifully Colored Small Snake with a Black Snout. (Courtesy of the New York Zoological Society)

SIGNS AND SYMPTOMS

This discussion is limited to clinical signs and symptoms produced by North American pit vipers (rattlesnakes, cottonmouth moccasins and copperhead moccasins). While the amount and toxicity of venom produced by the various species of pit vipers vary, their venoms are similar in many ways. These venoms contain certain common antigens.^{3,4} In addition, a multivalent antivenin which affords protection against many species can be produced by using the venom of but a few species.^{5,6} Of particular interest, however, is the fact that the signs and symptoms of intoxication with the venoms of these pit vipers are quite similar.^{7,8,9,10,11,12,13} Wood, Hoback and Green¹³ devised a useful clinical classification of the severity of pit viper venom poisoning based upon the presenting signs and symptoms and upon the clinical course of the patient during the first 12 hours of hospitalization. These authors classified bites as: *Grade 1. Minimal Venenation*. "These include cases having a history of suspected snake bite plus localized signs including the presence of one or more puncture wounds, moderate pain or throbbing localized at the fang wounds, and an area of edema extending not more than a few inches from the point of initial venenation. The hospital course in the subsequent 12 hours provides no evidence of systemic involvement." *Grade 2. Moderate Venenation*. "Patients classed in this group demonstrated the signs of Grade 1 poisoning during a brief early stage in their intoxication, but soon had

more severe and widely distributed pain, and more marked edema which would continue to progress up an extremity toward the trunk during the first 12 hours of hospitalization. In most cases the edematous area involved about half the distance between the bite site and the trunk. Nausea, vomiting, and giddiness were usually present. Petechiae and ecchymoses were restricted to the area of edema. A low grade temperature usually developed and persisted for from one to four days." *Grade 3. Severe Venenation*. "These patients may resemble Grade 1 or Grade 2 on admission, but the course of their intoxication is rapidly progressive. These patients may arrive in shock within a few minutes of the time of injury. Within 12 hours the edematous area extends from a bite site on an extremity to or involving part of the trunk. Petechiae and ecchymoses are frequently generalized in distribution. During the first 12 hours of therapy the pulse becomes rapid and thready, the temperature becomes subnormal and the patient approaches a state of shock." This classification is based primarily on the extent of resulting edema, and local pain plus the presence or absence of other symptoms including nausea, vomiting, giddiness, petechiae, and shock.

It is possible for a poisonous snake to bite a person without injecting enough venom to produce clinical signs and symptoms of venenation. Perhaps *Grade O—poisonous snakebite without resulting venenation* should be added to Wood, Hoback, and Green's classification¹³ to complete the biological gradient of poisonous snakebites. This paradoxical phenomenon has been mentioned briefly by Wood, Hoback and Green,¹³ Andrews and Pollard,⁷ Minton,¹¹ Jutzy et al.¹⁴ and Parrish.¹⁵ Klauber¹⁶ mentioned the case history of a naturalist who was bitten by a rattlesnake in which both fangs penetrated the patient's right index finger, but no signs and symptoms of venenation resulted. Allen¹⁷ pointed out that the phenomenon described here as Grade O venenation is well-known to many herpetologists and snake handlers. On the other hand, most physicians do not appreciate the fact that a poisonous snake can inflict a fang wound in a person which does not result in venom poisoning. It seems likely that many snake bite victims with Grade O venenation are overtreated. A review of the available literature failed to provide any detailed, medically-documented, case reports describing this paradoxical phenomenon.

CASE REPORTS

Case 1.—(M.W.), a 19 year old white male, was employed as a nature counselor at a summer camp

when he was bitten by a poisonous snake. The patient was struck on the dorsum of his right thumb while attempting to capture an 18 inch long pigmy rattlesnake (*Sistrurus miliarius barbouri*). The patient was examined 15 minutes after the bite at which time there was a single superficial fang puncture on the dorsum of his thumb. There was no surrounding edema or erythema. Local pain was minimal and no systemic signs and symptoms of venom poisoning developed. Two hours later the patient's condition had not changed, nor did it change during the following 48 hours. Treatment consisted of thoroughly washing the superficial wound with soap and water and giving the patient a 0.5 cc. booster injection of tetanus toxoid. This Grade O snakebite wound healed without complications.

Case 2.—(C.R.P.), an 11 year old schoolboy, was bitten on his right great toe by a 21 inch long pigmy rattlesnake (*Sistrurus miliarius barbouri*) while walking barefoot along the shore of a lake. He immediately killed the snake. Then he applied a tourniquet above his ankle and made one incision over the single fang puncture. Approximately 90 minutes after the bite he was examined and treated by a physician. Owing to the positive identification of the rattlesnake and the presence of a fang puncture wound, several additional incisions were made over the dorsum of the patient's foot to which suction cups were applied. In addition, the patient was given 20 cc. of Antivenin (Crotalidae) Polyvalent (10 cc. in each buttock), and a transfusion of 500 cc. of whole blood was started. The author was asked to examine the patient approximately four hours after the snakebite accident. The following observations were made: a single fang puncture on the dorsum of the right great toe with no surrounding edema or erythema; the patient's vital signs were within normal limits; the only pain the patient complained of was that associated with the suction cups over the incisions which had been made; and no other local or systemic symptoms of pit viper venenation. The patient was observed for 24 hours during which time there was nothing to suggest venenation. Additional treatment consisted of a 0.5 cc. tetanus toxoid booster injection and 250 mg. of Terramycin four times a day for five days. This snakebite puncture wound healed without evidence of infection or necrosis.

Case 3.—(R.S.), a 21 year old amateur snake collector was bitten by three and one-half foot long eastern diamondback rattlesnake (*Crotalus adamanteus*) while attempting to capture the snake. The patient managed to corner the snake and place a

snake hook over the snake's neck. However, as the patient reached down with his right hand to grasp the snake behind the head, the snake squirmed free and slashed at the victim's right forearm. Both of the snake's fangs ripped through the victim's shirt inflicting two superficial scratch marks along the victim's forearm. The snake had scored an indirect hit. The patient quickly captured the snake and examined the wound. He noted that the scratches were painful at first, but that the pain did not persist. There was not the "burning hot pain" that he had experienced from a previous rattlesnake bite. The patient squeezed blood from the wound, removing it by means of oral suction, and placed a tourniquet around his arm above the wound. He drove to the hospital where he was examined approximately 35 minutes after the bite. When examined, the patient was not apprehensive, he complained of little pain, and his vital signs were within normal limits. There were two superficial scratch marks along the patient's forearm which measured 1.5 and 2.0 cm. in length, respectively. These scratches were bordered by an area of erythema which was not more extensive than would be expected if the scratches had been made with an ordinary safety pin. There was no edema present. The patient was observed for three hours during which time there was no progression of signs or symptoms. Treatment consisted of thoroughly cleaning the scratches with soap and water and administering 1500 units of tetanus antitoxin in one arm and 1.0 cc. of tetanus toxoid in the other arm. A second tetanus toxoid injection was given two weeks later. The fang scratches healed without evidence of infection or necrosis. The patient experienced an uneventful recovery.

Case 4.—(L.A.C.), a 14 year old farmboy, was bitten on the dorsum of his right hand by a 26 inch long copperhead moccasin (*Ancistrodon contortrix contortrix*) while attempting to kill the snake. The patient discovered the snake in his father's barn. After striking the snake across the back several times with a stick, the patient grasped the stunned snake by the tail when it suddenly turned and lunged at his right hand. The boy was rushed to the hospital where he was examined about 40 minutes after the bite. At that time there was a single superficial fang puncture wound and several other small tooth marks and scratches on the dorsum of the patient's right hand. There was no surrounding edema or erythema. Although the patient appeared apprehensive, his blood pressure was 114 systolic and 80 diastolic, and his pulse rate was 76 beats per minute.

The patient denied any pain in his hand or arm. Observation of the patient for four hours showed no additional evidence of venom poisoning. Treatment consisted of a 0.5 cc. tetanus toxoid booster injection, and thoroughly cleaning the wound with soap and water. Follow-up showed that the wound healed in a normal fashion and that the patient made an uneventful recovery.

DISCUSSION

The diagnosis of ophidiiasis (snake venom poisoning) can be difficult. Perhaps too much emphasis in the past has been placed on identifying species of snakes and types of snakebite wounds. The statement is not intended to imply that this information is not valuable in the diagnosis of ophidiiasis. However, occasionally poisonous snakes bite humans without producing venenation. It would seem that a much more fundamental and practical question in the diagnosis of ophidiiasis is, "Does the patient exhibit signs and symptoms of venom poisoning?" Fortunately, venenations resulting from pit viper bites produce similar clinical signs and symptoms.

A summary of the differential diagnosis between pit viper venenation and other (harmless and poisonous) snakebites resulting in lack of venenation may be found in Table I. Pit viper venom poisoning is always accompanied by edema and erythema surrounding the site of the bite. These signs usually are evident within 30 minutes following the poisonous snakebite. They are always present within four hours following venenation. The severity of pit viper venenation can be estimated by the amount and progression of the edema and erythema during the first 12 hours following the snakebite.¹³ Sharp, burning pain at the site of the fang punctures is present in over 90 per cent of pit viper venenations. This pain usually develops within 5 minutes after the venom is injected. As the venom spreads from the fang punctures the accompanying edema and tissue damage increase the severity of the pain. Occasionally neurotoxic effects of pit viper venoms may mask local pain.⁸ If intense pain is present, however, and is accompanied by local swelling, it is a reliable symptom of pit viper venom poisoning.

Fang puncture wounds are necessary to produce venenation. A pit viper wound usually has one or two (occasionally three or four, if new fangs are growing in to replace old ones) fang punctures. In addition, there may be tooth marks or scratches. However, as illustrated by case histories 1, 2 and 4, puncture wounds produced by pit vipers' fangs don't invariably produce venenation. Lack of venenation

may result from an insufficient amount of venom, failure of the venom gland-fang mechanism, indirect hits with the fangs, etc. Presumably, superficial scratches resulting from pit vipers' fangs do not result in clinical venenation. The patient described in case history 3 received superficial scratches from a pit viper's fangs, but did not develop venenation. Even if venom entered the scratches, one would expect nothing more than a small wheal with a few centimeters of erythema surrounding the scratches, similar to that described for scratch tests using pit viper venoms.⁴ Pope and Perkins¹⁹ studied the patterns of tooth and fang marks resulting from bites by pit vipers and harmless snakes. In general, these patterns are helpful in differentiating poisonous from harmless snakebites. However, in clinical practice one rarely sees what Pope and Perkins described as a perfect poisonous snake bite. Thus, the local signs of pit viper venenation are: edema, erythema, pain and fang punctures.

Grade 2 (moderate) and Grade 3 (severe) venenation are characterized by systemic involvement. Symptoms of shock are common, because pit viper venom produces hypotension.²⁰ Nausea, vomiting and diarrhea may be present. Occasionally there may be bleeding from the gastrointestinal or genitourinary tracts. Although pit viper venoms are primarily hemotoxic and proteolytic in action, they do contain some neurotoxins.¹ Neurotoxic signs and symptoms including muscular twitching, paresthesias and numbness, convulsions, coma, and motor or respiratory paralysis usually indicate moderate or severe intoxication.

Poisonous snakebites which do not result in venenation should be treated conservatively. Superficial fang punctures, tooth marks and scratches should be thoroughly cleaned with germicidal soap and water. Tetanus toxoid and/or antitoxin is indicated, since snakes' mouths and venom glands may harbor tetanus organisms. In addition to the above measures, patients with deep fang puncture wounds should be given a broad spectrum antibiotic to prevent infections.²¹ *Antivenin is contraindicated in Grade 0 venenation.* Pain is inconsequential, hence analgesics are not necessary.

SUMMARY

1. Poisonous snakebites don't invariably result in venom poisoning. The case histories of four patients who received fang wounds from North American pit vipers which did not result in venenations are discussed. The poisonous snakes were identified in each instance. These snakebites were clas-

sified as Grade O—poisonous snakebite without resulting venenation.

2. Previous reports on the diagnosis of ophidiiasis have emphasized identifying the species of snakes and the pattern of tooth and fang marks on the wounded part. In this report emphasis is placed on the signs and symptoms of pit viper venom poisoning including local edema and erythema, local pain, shock, and other systemic symptoms.

3. Poisonous snakebites without resulting venenation should be treated conservatively. Thoroughly cleaning the wound with germicidal soap and water, tetanus toxoid and/or antitoxin, and broad spectrum antibiotics are recommended. Antivenin is contraindicated in Grade O venenation.

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TABLE 1
DIFFERENTIAL DIAGNOSIS BETWEEN PIT VIPER VENENATION
AND OTHER (HARMLESS AND POISONOUS) SNAKEBITES RESULTING IN LACK OF VENENATION*

Characteristic	Pit Viper Venenation	Other Snakebites Without Venenation
Local swelling or edema	present, progressive	none to very minimal
Local erythema	present, progressive	none to minimal
Local pain	intense, persistent	minimal, transient
Fang puncture	present	usually absent
Symptoms of shock—(giddiness, weakness, syncope, hypotension)	may be present	absent
Nausea, vomiting, diarrhea	may be present	absent
Muscular twitching	may be present	absent
Numbness and paresthesias	may be present	absent
Motor or respiratory paralysis	may be present	absent
SEQUELAE infection	common	rare
gangrene	common	none
sloughing	common	none
hemorrhages	common	none
anemia	common	none
atrophy	common	none

* This discussion excludes coral snake venenation which is characterized primarily by neurotoxic symptoms.¹⁸

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School Children Should Wear Identification Tags

Identification tags for school children have been suggested by a physician who cared for many who were burned in the Chicago school fire last December. Identification of badly burned or injured children is often difficult because they rarely carry wallets or other means of identification, according to Dr. James E. Segraves, director of the disaster plan at St. Anne's Hospital, Chicago.

More than 50 children were taken to St. Anne's Hospital from the Our Lady of Angels School fire. Of these, 10 were either dead on arrival or died shortly thereafter. "Identity was often incomplete, and even parents were unable to identify for sure some of the most severely burned children."

Identification tags would alleviate this difficulty, he said in a report on the hospital's disaster medical plan in the May 16th *Journal of the American Medical Association*.

Dr. Segraves also recommended as a result of his hospital's experience that personnel in each city

police district be familiar with the hospitals in their district and know just how many casualties each could care for at one time.

St. Anne's Hospital has long had a plan for meeting major medical emergencies. On the whole, the plan worked well after the school fire.

He offered the following suggestions for disaster planning by hospitals:

—The plan must be simple and familiar to all hospital personnel. Frequent practice sessions are necessary.

—Mass disaster situations must be postulated and the first 24 hours of treatment must be outlined in detail long before any disaster occurs.

—Stockpiles, based on the outlined 24 hours of treatment, must be kept available.

—The team approach is the only logical one if chaos is to be prevented, and the team must be under the direction of one man.

Arsenic Poisoning

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ARSENIC, publicized for centuries as a poison, is still very much with us today as a potential menace. Although exposure to it is most often accidental, it still, however, features in occupational, suicidal and even homicidal poisonings.

The diagnosis of arsenic intoxication is often overlooked because of nondescript signs and symptoms that are not immediately correlated. Chemical tests are conclusive and may be done in a hospital or clinic of any size (or even in the physician's office).

Because of possible exposure (even though remote), and because of the ease and simplicity of chemical testing (see tests below), patients with unexplained gastro-intestinal upsets should be tested for arsenic.

ARSENIC

As

Derivatives: Fowler's solution, lead arsenate, arsenical soap, arsenic trioxide, organic arsenicals, copper arsenite (Paris green), cacodylates, iron arsenate, arsenic iodide, Donovan's solution, insecticides, rodenticides, arsine, calcium arsenate.

Properties: Compounds usually white with exception of copper compounds. Combines with tissue sulphydryl groupings.

Uses: Paints, tanneries, fly killer, insecticide, rodenticide, weed killer, cattle dip, fungicide, wood and taxidermist preservative.

MLD: Approximately 200 mg. (3 grains) of arsenic trioxide per 150 lb. man.

Remarks: So called "tolerance" is unlikely but difference in *degree of effect* may be due to altered rate of absorption, cumulation, and of elimination. Arsenic was the poison of choice of the "professional poisoners" because chronic small doses may produce confused progressive debilitation prior to a delayed death, and such small doses are tasteless, odorless and colorless.

Poisoning may be obscured and a sudden unexplained G-I upset could be indicative of arsenic poisoning.

Symptoms: Acute. Metallic taste, constriction of throat (dysphagia), hoarse voice, nausea, vomiting, "rice water stools" developing to bloody diarrhea, dehydration, severe abdominal pain, garlic odor to breath, salivation, thirst, oliguria, capillary oozing (increased permeability), shredded stomach lining, bloody vomitus, pallor, hyperpyrexia, moist skin, tremors, convulsions, shock via loss of fluids and proteins, hypotension, death in less than 15 hours due to circulatory collapse.

Chronic. General weakness, anorexia, nausea, vomiting, diarrhea, nose bleed and bleeding gums, conjunctivitis, "Mees" lines, thirst, coryza, hoarseness, coughing, catarrhal swelling, dermatitis, severe skin exfoliation, renal damage, anuria, albuminuria, hepatic damage and degeneration, urinary casts, peripheral neuritis of hands, feet (extremities more involved), foot drop, wrist drop, loss of hair, tremors, colitis, severe pain, paralysis of motor end plate, garlic odor to breath, anoxic convulsions, cord involvement and ataxia.

Identification: Vomitus, gastric lavage, urine, powder, tablets, residues, hair or fingernails.

1. Approximately 20 ml. of gastric lavage, vomitus, urine, or powers, tablets or residues dissolved or suspended in 20 ml. of water is placed into a small Erlenmeyer flask. 4 ml. of hydrochloric acid is added. A 20-gauge copper wire previously wound into a small coil around a glass rod to a length of about 1/4 inch is washed and then introduced into flask, (if copper wire is not available, a small copper strip may be used and as last resort

even a penny). Solution is heated at low heat for about an hour, then spiral is removed and examined. A silver like deposit may indicate mercury; a dark deposit may indicate arsenic, bismuth or antimony.

The arsenic deposit is sensitive and visible to as low as 0.010 mg. of arsenic. An estimation may be made by comparison with standards prepared in a similar fashion.

Arsenic— dull black 0.010 mg.

Bismuth— Shiny black 0.020 mg.

Antimony— dark purple sheen 0.020 mg.

The arsenic black deposit is confirmed by placing the copper spiral in 1-2 ml. of 10% potassium cyanide. If the black deposit is due to arsenic, it will dissolve. The deposit, however, if due to bismuth or antimony will persist.

Interpretation: Normally there are small traces of arsenic in blood, urine, hair and finger and toe nails, but these are very low and will not be detected with the tests described above and using the sample size suggested. Frequent analysis of all reagents is necessary to rule out contamination.

Normal arsenic in urine is less than 0.005 mg/100 gm; in hair or fingernails less than 0.003 mg/1 gm. Scalp hair growth is approximately 1/4 to 1/2 inches /month. Fingernail growth is about 1/8 to 1/4 inches /month.

Note: Stomach contents should be examined for crystals and color, ie: green suggestive of Paris green; yellow of arsenic sulfide; white of the trioxide. Arsenic trioxide is the most common.

Treatment: Gastric lavage with warm milk and water, followed by sodium sulfate (15 gm) cathartic; keep bowels open. Keep patient warm and quiet, maintain body heat, fluids and electrolyte balance. Sedation and morphine

for pain; combat shock. Diet high in glucose and protein with low fat, for possible liver damage; also calcium gluconate, methionine, and B complex vitamins. Artificial respiration, oxygen therapy, whole blood, or fluids as needed.

Specific Treatment: BAL by intramuscular injection, 2.5 mg/Kg or 0.025 ml/Kg (in a 75 Kg weight man 1.8 ml). Repeat at 4 hour intervals for a total of 4 to 6 injections, then 2 daily injections for about 5 to 10 days or until recovery. BAL sometimes produced side reactions; 50 mg of Benadryl given prior, appears to eliminate this. BAL effectively hastens the removal of arsenic from cellular sulfhydryl and thus is more rapidly eliminated.

Tests urine periodically to determine rate of elimination which will check effectiveness of treatment. This can be correlated with clinical impressions. Blood arsenic levels will be relatively low, whereas urine levels may be high for at least 10 days. In chronic exposure, urine may be positive for months.

BAL is not effective for arsine poisoning. An early exchange transfusion may be of some value.

Signs, symptoms and treatments for selenium are generally similar to arsenic. Soluble selenium compounds are highly toxic, whereas insoluble selenium sulfide is less toxic. Tellurium is less toxic than selenium.

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This is one of seasonal articles on common poisonings which will be published in the Monthly from time to time.

It is prepared by Dr. Kaye in collaboration with the Richmond Poison Information Center.

Sacrococcygeal Tumor

Report of a Case in a Newborn Child with Remarks on Etiology

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A SACROCOCCYGEAL TUMOR from a newborn child is the subject of this description. In an attempt to explain the etiology of such tumors the results of investigations on the histology of such tumors and the observations on the morphogenesis and histogenesis of the iliosacral region in human, mammalian and avian embryos, both descriptive and experimental have been reviewed.¹⁵

It is presumed that the general reader is familiar with at least one of the modern reviews of the histology and etiology of sacrococcygeal tumors such as are presented by Nicholson⁹ and by Ravitch and Smith.¹¹ The principal etiological factors which have been remarked upon in these reviews are: (a) an abortive attempt to form a parasitic twin; (b) not given ACTH or corticoids^{13,11} resulted in 3 re-not become detached from the fertilized egg; (c) parthenogenetic development of wandering primitive germ cells; and (d) abnormal development of the primitive streak.

It is further presumed that the reader is not familiar with views of etiology based upon modern experimental embryology and modern theories of sacrococcygeal teratogenesis suggested by Holmdahl⁴ and Ikeda.⁵ These conclusions are based upon morphological and experimental studies of the development of the sacrococcygeal region of the chick, mammalian and human embryos. In brief they supplement the observations of Herrmann and Tourneux,^{2,3,13} Unger and Brugsch¹⁴ in regard to the importance of the indifferent cells of the tail bud in the formation of all of the fundamental tissues of the body caudal to the lumbosacral junction. The important departure from the accepted view of the development of the central nervous system is the crux of this new information. Holmdahl has shown that the central nervous system caudal to the 23d segment (3d lumbar) does not develop by the in-rolling of a neural plate, as does the neural tube cephalic to this region, but is formed by the hollowing out of a cord of indifferent cells which has been

proliferated from the tail bud between the closed posterior neuropore and tail bud. The important corollary to this type of development is the derivation from the same mass of indifferent cells, of the primordial cells of the notochord, vertebrae, muscles, perineum, skin and all related parts, including the proctodeum. Hence, according to this information, sacrococcygeal tumors are caused by the abnormal or exuberant uncontrolled growth of tissues normally growing under control in the sacrococcygeal region.

After this introduction to a concept of development which may not be familiar to the general reader, we wish to present the description of the case of sacrococcygeal tumor with a limited comment on its etiology from the point of view given above.

The tumor was removed from the sacrococcygeal region by the junior author when a resident in Surgery at the University of Virginia and was sent to the Pathological Laboratory with the following comments.

Case History No. 327076 (Path. No. 158231) University of Virginia Hospital. A five-day-old white female infant was admitted to the University Hospital on May 27, 1952. At birth a soft cystic tumor was noted at the base of the spine protruding anteriorly and posteriorly (Figs. 1 and 2). The mother had noted no increase in the size of the mass during the five days of life. The child was taking her feeding without difficulty. Her stools were normal.

Physical examination: A mass measuring 6.0 X 8.0 X 8.0 cm. extended posteriorly from the coccyx and perineum. The mass was completely covered with skin. There were cystic areas that transilluminated. Pressure on the mass caused no discomfort to the child nor bulging of the fontanelles. Rectal examination revealed no abnormalities.

Laboratory and x-ray examinations: Routine laboratory work was normal. A barium enema revealed the bowel to be in the normal position. There was no demonstrable connection between the bowel and the

From the Departments of Anatomy and Pathology of the School of Medicine, University of Virginia.



Fig. 1. Photographs of child's buttocks from dorsal view showing the tumor. X $\frac{1}{3}$.

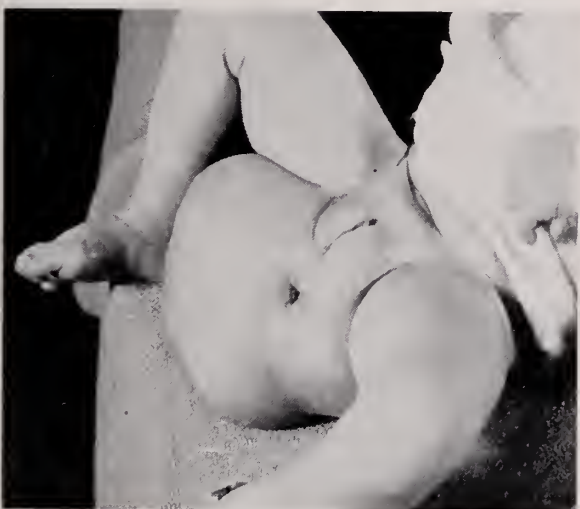


Fig. 2. Photograph of perineal region of the child showing the tumor. X $\frac{1}{3}$.

perineal mass. X-ray examination of the pelvis revealed no bony abnormalities (Fig. 3).

Operation: A small polyethylene tube was placed in the saphenous vein of the left ankle to facilitate transfusion. Under satisfactory drop ether anesthesia, the patient was turned on her left side and a transverse incision was made across the mass. The mass was dissected free from the skin by blunt and sharp dissection. The levator ani muscles were exposed anteriorly and separated from the tumor mass without difficulty. The superior part of the tumor was attached by fibrous tissue to the inferior margin of the coccyx. The entire mass was completely removed (Fig. 4). The wound was closed by layers. Immediately following the surgical procedure, rectal examination revealed the anal sphincter to be of normal tone and the rectum to be intact

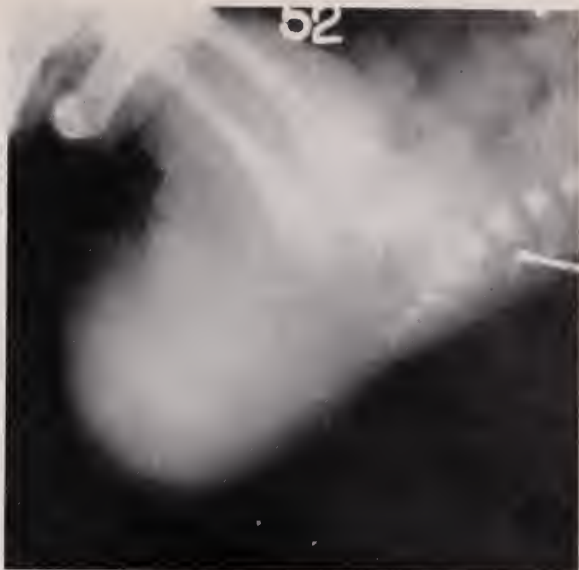


Fig. 3. X-ray photograph of the tumor from the lateral surface showing the absence of dense materials within. X $\frac{1}{3}$.

throughout. 150 cc. of whole blood was given during the operation.

Postoperative course: There was a gratifying change in the physical appearance of the child. The wound healed per primum and the sutures were removed on the sixth postoperative day. On examination six weeks later, the wound was well healed, but there was considerable deformity about the buttocks. The child was eating well and urination and defecation were normal. The child was gaining in weight.

There are no more entries on the record, the family



Fig. 4. Photograph of the tumor just after removal from the child. Viewed from the dorsal surface. X 0.9.

moved away, and we could not get any further information recently.

HISTOLOGY

The histologic study and all references to the literature and comparative data in the following part of the paper were written by the senior author, who made a preliminary report of this case in 1954.⁸

The whole tumor had been fixed in cold 80% alcohol so that special histochemical studies could be made. Sections of the sacrococcygeal region of fetuses and newborn children were used as controls.



Fig. 5. Photograph of medial surface of the sectioned tumor. X 0.9.

The sections of the tumor were found to contain histologically diverse cysts between which ramified a fibroelastic connective tissue stroma in which were

embedded isolated and independent masses of fundamental tissues. The histological structure is indicated schematically in Fig. 6.

For comparative purposes the incidences of the tissues present in this tumor and in 48 other sacrococcygeal tumors from children between the 8th fetal month and the end of the first year which have been described in the literature were calculated, and their incidence has been appended to the descriptions of the tissues where pertinent.¹⁵

In all of the pieces of the tumor the chief stroma was composed of collagenous and elastic fibers. Definite small tendons associated with striate voluntary muscle were found. The latter is the most common specialized tissue in the stroma of this tumor and in the tumors reviewed it had an incidence of 43%.

Smooth muscle is present in all regions of the stroma. Its association with cysts of neuroglia tissue is puzzling because this has not been seen in the region of the sinus terminalis in fetuses. Smooth muscle had an incidence of 47%.

Fat was present in 51% of the tumors reviewed and next to cartilage was the commonest tissue present. There was no cartilage in the sections of this tumor.

Several small unmyelinated nerve fasciculi are present in the sections of the tumor. One ganglion cell is present in one of the fasciculi. Nerve fibers of this type, apparently unrelated to any particular structures, were frequently observed in the iliorectal

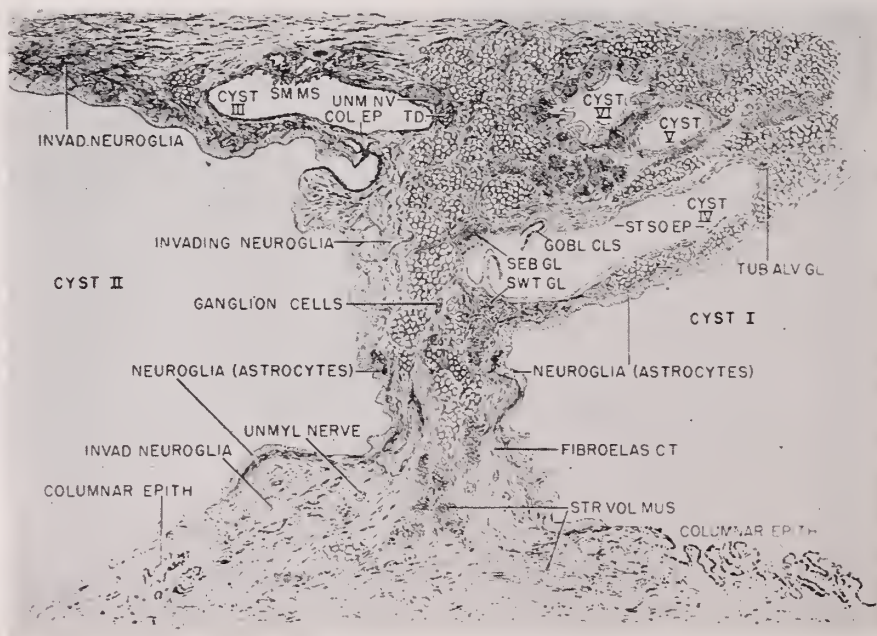


Fig. 6. Semidiagrammatic drawing of the equatorial section reconstructed from sections at this level. Original magnification X 15. Reduced X 0.6 in reproduction.

field of older fetuses. Unmyelinated fibers were recorded in 20% of the tumors reviewed.

A small fasciculus of myelinated nerve fibers is present near striated muscle in association with cyst V. Myelinated nerve fibers had an incidence of 22% in the tumors reviewed.

The only wandering cells observed in the stroma were mast cells, neutrophils and eosinophils. Vasa ramify through the tumor, but no attempt was made to follow them.

The Cysts. For purposes of convenience of description and topography, the morphologically important large cysts have been numbered in the semi-diagrammatic drawing of the median section of the tumor (Fig. 6).

Cyst I is the large cyst occupying most of the right side of the tumor (Figs. 5 and 6). The wall is composed of neuroglia tissue. There is no definite ependymal layer and the tissue has the same characteristics as was seen in the sections of the wall of the spinal cord of a newborn child with syringomyelocele. This tissue is not sharply marked off from the underlying stroma and extends out into it in solid strands. There is no definite layer like a pia mater around the cyst, but strands of fibrous connective tissue extend into the folds in the wall and carry capillaries with them. This arrangement is present in the wall of the sinus terminalis of older fetuses. Cysts lined with neuroglia were described in 43% of the tumors reviewed. Neuroglia strands penetrating the stroma were described in 45% of the tumors reviewed.

It is a well known fact, since the discovery of the sinus terminalis (medullary vestige, vestige medullaires coccygens), and the more detailed later descriptions of it,^{2,10,13,14} that the pathologists with embryologic viewpoints have looked upon the nervous tissue of the sacrococcygeal tumors as having been derived from this remnant.^{3,14} Holmdahl⁴ started the modern ontogenetic analysis of this region, basing his conclusions upon experimental and morphological studies in the chick embryo, and morphological studies in mammalian and human embryos. According to him, the aberrant nervous tissue in sacrococcygeal tumors is merely one of the tissues which may be derived from abnormal proliferation and differentiation of the indifferent cells of the trunk-tail-bud. Normally these cells form a solid cord of nervous tissue which becomes canalized to form the caudal end of the neural tube caudal to the closure of the primary posterior neuropore at the level of the 23rd segment (3rd lumbar) of the

human embryo. This view has been supported by experiments in chick embryos^{1,12} with the additional observations that the more cephalic tissues which have differentiated from the primary germ layers are necessary "inductors" of specialized tissues derived from the trunk-tail-bud; and growth of the derivatives is interstitial rather than appositional from the trunk-tail-bud.¹²

Of significance in the etiology of sacrococcygeal tumors is the conclusion by Holmdahl that the trunk-tail-bud forms in addition to the caudal end of the neural tube, the cloaca and tail gut, celomic cavity, notochord, somites and their derivatives, such as muscle, loose connective tissue which differentiates into ligaments, connective tissue of the sclerotomes, cartilage, bone, endothelium, blood corpuscles, and smooth muscle associated with the rectum and anal canal.

From the above observations it is concluded that the neuroglia tissue of cyst I has been derived by the hypertrophy and degeneration of the ependymal cells of the sinus terminalis. Also, since there are no "rosettes", nor any cell processes extending to the vasa from the degenerating neuroglia cells, nor is the tissue highly vascularized, the cyst cannot be identified as an individual tumor such as an ependymoma, astrocytoma or other specialized neuroglia tumor derived from spongioblasts.^{6,7}

Cyst II (Figs. 5 and 6) is lined with the same kind of tissue, but has more papillae, many of which are covered with a degenerated ciliated epithelium.

Cysts III lies in the upper wall of the tumor just to the left of the center (Fig. 6). It has papillae like those of cyst II, but more numerous. In most descriptions, these formations have been regarded as simulating the villi of the choroid plexuses of the fetal brain. Cysts lined with neuroglia tissues were described in 43% of the tumors; and those with ciliated columnar epithelium on papillae in 34%.

Cyst IV lies in the upper end of the tumor above cyst I (Fig. 6). It is lined with more or less atypical stratified squamous epithelium from which diverticula lined with other types of epithelia extend. In some areas the prickle cells contain vacuoles and most of them contain PAS positive (mucopolysaccharide) granules. In several regions near the left end of the cyst there are small diverticula lined with goblet cells. In one of these areas the prickle cells can be gradually traced to goblet cells and the goblets of these cells have the same positive

PAS reaction. These granules do not react with any of the other dyes, so it is assumed that they are composed of an unknown mucopolysaccharide different from that in the goblet cells of the rectum which react with both PAS and toluidine blue.

At the left end of the cyst on the lower side there is a small coiled tubular gland which reacted like the sudoriparous glands to special stains.

At the opposite end of the cyst there is a branching tubulo-alveolar gland (Fig. 6), the duct of which is lined with stratified columnar epithelium and its fundus is composed of goblet-like glandular cells which are strongly PAS positive. In structure and histochemical reaction this gland resembles the fundus of the vestibular glands of older fetuses.

A typical sebaceous gland is present not far from the opening of the goblet cells, but no hair is present.

On the whole cyst IV seems to have been derived from an aberrant detached diverticulum originating in the embryonal anal canal before it became separated from the cloaca.

In the sacrococcygeal tumors reviewed there were 29% in which tubulo-acinar glands were mentioned, but their histochemical nature was not recorded in any description. Tubulo-acinar glands were present in three tumors which contained adenocarcinoma; and in four of the six tumors with carcinoma. In the tumors reviewed, the incidence of cysts lined with stratified squamous epithelium without hairs was 29%.

Cyst V is a small cavity deep in the upper left quadrant of the median section (Fig. 6). Most of the cyst is lined with stratified squamous epithelium. This epithelium, however, is unique in having scattered intraepithelial nests of goblet cells clustered around short ducts which open on the surface of the epithelium. The cells are strongly PAS positive and their contents can be traced to modified prickle cells.

There is one large sebaceous gland with a hair follicle and a small hair opening from the medial end of the cyst.

On the lower side of the cyst is a large coiled gland which resembles a sudoriparous gland.

This cyst appears to have more of the characteristics of the zona cutanea of the anal canal than of the zona intermedia, but is not completely epidermal in character. The presence of goblet cell metaplasia in the midst of stratified squamous epithelium is unique. Examination of sections in our control human fetuses of the epithelia of the perineal organs which could have been derived from the cells of the

trunk-tail-bud, and which resembled this metaplastic stratified squamous-goblet cell epithelium, showed that the epithelium which most nearly resembled that of cyst V, was the lining of the developing vestibular glands in female fetuses. Rosettes of PAS positive cells were present in the midst of stratified columnar epithelium. In the later stages of fetal life, when the vestibular glands are forming, this region is quite far from the iliorectal field (region between coccyx and external sphincter ani muscles), but it is conceivable that the epithelium which gave rise to this cyst may have arisen from the original cloacal epithelium just before the end of the teratogenic period.

Cyst VI is a small cavity in the upper left area of the section (Fig. 6). It is lined with stratified squamous epithelium of the epidermoid type. The wall is beset with hair follicles, most of which contain small hairs surrounded by sebaceous glands. In the descriptions of the tumors which we have reviewed, these cysts have usually been classified as epidermoid and their incidence was 28%.

In brief, the sacrococcygeal tumor described here can be said to be one in which all of the tissues present can be regarded as having been derived during ontogeny from the primitive tissues normally present in or near the iliosacral region of the fetus. We would suggest, from the evidence obtained from the study of the tissues in the sacrococcygeal region of human fetuses, that the time at which the teratogenic period for aberrant growth ends, is about the beginning of the third month of fetal life when the fetuses are from 35 to 40 mm. in length (CR.). In the complex tumors arising in the iliorectal field, the connective tissues, the sphincters and the nerves of the anal canal are usually intact, but are shoved forward by the invasion of the field by cystic growths. Whereas in tumors of single tissues, these regions may be invaded or even destroyed.

COMMENT

In reviewing the concepts of the etiology of the sacrococcygeal tumors we have selected material so that only those opinions have been considered which are supported by morphological evidence based on the study of the sacrococcygeal region of man, mammals and birds. In order to do this we have examined papers in which embryos directly, or their parents during pregnancy, have been subjected to the action of physical agents (e.g. x-ray, ultraviolet radiation, atomic blasts); chemical agents (e.g. acetone, arsenic, manganese, magnesium salts,

methyl blue, nitrogen mustard, oxygen, radioactive phosphorus, pilocarpine, rhodamine, selenium, trypan blue, thallium, vanadium, water and many other chemical agents); hormones (e.g. ACTH, compound F, cortisone, insulin, pituitary extracts); viruses (e.g. rubella, tetanus, Newcastle disease); vitamin deficiencies (e.g. vitamin A, aminopteryoglutamic acid, pteryoglutamic acid, vitamin B, B₁₂, biotin, carotene, folic acid, panthenic acid, riboflavin); congenital genetic abnormalities (e.g. mice with looptail, mice with sireniform young, mice with screwtails, mice with defective-gut-tail-urogenital system, rumpless fowls, creeper fowls, fowls with blebs, dexter breed cattle). In none of these experimental or genetically abnormal conditions was there any anomalous condition which approached the sacrococcygeal tumors in structure, even though the caudal regions of many of these animals were abnormal. In practically all of the abnormalities there was hypoplasia and not hypertrophy of tissues, lack of instead of excess of tissues.

SUMMARY

The morphological relations and histological characteristics of a sacrococcygeal tumor from a newborn living child have been described and the constituent tissues compared with those from sacrococcygeal tumors of late fetal life and the first postnatal year which have been adequately described in the literature. The etiology of the tumor is discussed from an embryologic point of view originated by Herrmann and Tourneux^{2,13,14} and modified by Holmdahl⁴ and others. Reference is made to modern experimental embryology in discussing the etiology. It has been found from a review of the actions of a variety of physical, chemical, and biological agents on the avian and mammalian embryos that there was none which produced results comparable to this tumor and those described in the literature. It is suggested that the tumor arose from the aberrant and exuberant uncontrolled growth of the normal tissues resident in the sacrococcygeal region of the fetus, the primordial cells of which have been derived from the indifferent cells of the trunk-tail-bud.

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Observations on Infections of Adults

A Method of Management

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TWENTY YEARS AGO, the management of infectious diseases posed no great problem. The physician gave what supportive treatment he could and the patient's recovery or demise depended more upon the severity of the illness, the stamina of the patient, and whether complications developed. Since the introduction of the antibiotics, some physicians have stated that they administer them for minor respiratory infections, and fevers of undetermined origin, for reasons usually to be found among the following: the family expected it; an unrecognized infection might be controlled early; prophylaxis against a complicating infection; and as a means of reassuring family, patient, and physician that something was being done. Reimann¹ and others have deplored this practice and commented that, in addition to the hazards to the patient,² thought must be given to the financial burden to the family of unnecessary antibiotics, and the confusion which they can cause the physician. Some physicians have felt that while a cautious use of antibiotics was the wise course, and an easy matter for the medical center type of practice, it was impractical in the average practice.

In our practice of "family" internal medicine, we encounter essentially the same illnesses and patients as the general practitioner, with the exception of children, and the above facts prompted us to make observations on a series of patients with fever and to work out an adequate approach to their management. Patients in the series consisted of house calls, the regular and casual patients who come to the office, and occasional referred patients in our city of 100,000 people. Data was collected over a period of two and a half years on a total of 120 patients with a temperature of 101° or higher, when first seen, or during hospital observation. Every patient in the series was seen by one of us (MJM) and the other author (WDP) saw many of the patients and, of course, any in whom the diagnosis was in doubt, in an effort to make the study less biased and more accurate.

The question of how best to treat such patients resolved itself in most instances into how to differentiate between common viral respiratory diseases and potentially dangerous bacterial infections. If symptoms or signs were equivocal, or not diagnostic, only symptomatic medications were ordered. Frequently a blood count would help in diagnosis, and was quite reassuring to the family that "something was being done", and that the illness was not being taken lightly. Patients with respiratory infections were also requested to send in sputum specimens for Gram stains in an effort to determine the etiology of bacterial infections, and to be certain that a bacterial infection was not complicating an original, or previously diagnosed, viral infection. In the latter instance, a sputum loaded with pneumococci prompted a return visit earlier than previously planned. In each non-hospitalized case, the patient, or a member of the family, was requested to give a daily telephone report. Patients with virus respiratory tract infections were told to contact us promptly if they recovered, or almost recovered, and then had a recurrence of fever or shaking chills, as this usually indicated the development of a complicating bacterial infection. A mimeographed sheet of instructions was given to each patient and those with non-bacterial infections were given analgesics and those with bacterial infections received, in addition, whatever antibiotic was indicated. A record of home calls was kept and this was facilitated by a mimeographed sheet on which common symptoms could be encircled with a pen.

While it is recognized that few signs or symptoms can be expected to give an unmistakable etiologic diagnosis, the following were appraised to determine their respective values to us: Sudden or gradual onset; presence of generalized body aching; severe headache, often worse with motion; painful eyes or conjunctival injection; presence of a similar illness in the same household; presence of similar illness in same household and recovery without specific therapy; profuse sweating; fever of duration greater

than 48-72 hours; shaking chills (rigors) as compared to chilly sensations; pulse rate below or exceeding 100; whether symptoms were diffuse (nose, throat, and lungs) as compared to localizing (only cough). Using the above non-specific criteria, it was learned that the character of the chills, the pulse rate, and the character of the patient's symptoms and signs (whether diffuse or localizing) were of particular assistance. A decision had been originally made to exclude any patients with chronic bronchitis, since there is a well known tendency for any type of infection to be followed by bacterial infection in many members of this group and, without the benefit of virus studies, we could not write with certainty as to the accuracy of our original diagnosis. For the latter reason, we also decided to exclude any patients with a febrile gastroenteritis in whom a definite bacterial cause could not be proven (although none of them required antibiotics, and the majority had the clinical appearance of virus infections). Two patients were excluded because there was a possibility of inaccurate diagnosis, and one because infection was not present.

had localizing signs and symptoms of a pulmonary infection. Although only 13 in the virus group had pulse rate below 100 and non-shaking chills, 26 of 38 failed to have either shaking chills or a pulse rate exceeding 100. In the remaining 12 patients, the diffuseness of their symptoms and signs excluded a bacterial infection, though they did have shaking chills and a pulse rate exceeding 100. It may be indicative of the severity of the virus infections of the fall of 1957 (Asiatic influenza?) that all the patients seen with shaking chills and tachycardia, diagnosed as a virus infection, were seen this year except for two patients seen in 1956 who obviously had APC virus infection from symptoms and signs, including marked conjunctival injection.

While confirmatory evidence of the bacterial infections was usually easily secured, the diagnosis of a virus infection was purely on clinical grounds with aid from blood counts, negative chest x-rays, sputums, etc. The limited facilities of area labs capable of performing agglutinations and cultures for diagnosis of virus infections made it impossible for them to honor requests for this service, which would

100 INFECTIONS—62 BACTERIAL AND 38 OF VIRUS ETIOLOGY

Symptoms were initially sufficiently localizing or diffuse to make the diagnosis apparent.....	82
Symptoms were initially non-specific or misleading.....	18

	Diagnosed on completion of physical examination	Diagnosed on completion of lab work	Developed diagnostic signs next day	Diagnosis became apparent early in clinical course	Diagnosis more difficult and required more time
18 patients with misleading or non-specific non-specific	3 2 with tonsillitis. 1 with APC infection.	4 2 with urinary tract infections, 1 with cholangitis 1 with pneumonia	4 Chickenpox Vincent's infection. Measles Pneumonia	4 3 with influenza and 1 with leptospiral infection.	3 liver abscess, paratyphoid fever, sub-acute bacterial endocarditis

Of the 100 remaining patients in the series, 62 were diagnosed as bacterial infections, and 38 were believed viral in etiology. Fifty-eight of the 62 patients with bacterial infections had shaking chills whereas these were experienced in only 15 of the 38 with virus infections. Fifty-four of 62 with bacterial infections had a pulse rate exceeding 100 (at the time their fever was recorded at 101°) and only 22 of 38 patients with viral infections had this. Conversely, eight of 62 patients with bacterial infections and 16 of 38 with viral infections had a pulse rate below 100. Only one of the 62 patients with a bacterial infection had a "virus picture" (non-shaking chills and pulse rate below 100), and he

have made this study more accurate and interesting. At this point, it is worth stressing that the figures for the bacterial and viral infections cannot be used as an index of the proportion of the two seen in patients with fever of 101°. It would probably be near 3:1 in favor of the virus infections since many of the latter (not included in the series) were seen at times when their temperature had fallen below 101°, and the diagnosis was so apparent that I did not find it necessary to see them again until after their recovery—using daily phone calls to follow their progress. This was not true of infections where there was no apparent cause and they were seen repeatedly or hospitalized. In the latter group, the

time honored method of withholding salicylates (except for extremes of pyrexia) was followed until we had an opportunity to observe the fever curve and codeine, or a similar preparation, was given to control the symptoms.

had pulse rates of 100 or above during the course of febrile bacterial infections. Ample evidence that this is not a hard and fast rule was provided by the patient with S.B.E., who had the highest fever, the most severe shaking chills, and was the most crit-

CHILLS AND PULSE RATE IN 100 INFECTIONS

	BACTERIAL INFECTIONS	VIRUS INFECTIONS
	62	38
Shaking Chills and Pulse Rate over 100	51 (82%)	12 (31%)
Shaking Chills	53 (93%)	15 (39%)
Pulse Rate over 100	54 (87%)	22 (57%)
Non-shaking Chills	4 (6%)	23 (62%)
Pulse Rate Under 100	8 (12%)	16 (42%)
Non-shaking Chills and Pulse Rate Under 100	1 (1.6%)	13 (34%)

As mentioned previously, two patients were excluded because of the possibility of inaccurate diagnosis. One was a young nurse with a clinical picture of a rickettsial infection, including rash and tick bite, in whom agglutinations were negative. The other was a young teacher whose students had influenza (Asiatic ?) but he was completely symptom-free except for hard shaking chills, lasting 30-60 minutes, and occurring about twice daily, with a normal blood count, and recovery occurred without antibiotics. Since all patients with fever do not have infections, it might be mentioned that one referred patient was seen with history of no response to antibiotics. She had fever, elevated pulse, and shaking chills, but also had hepatomegaly, splenomegaly, and a few enlarged lymph nodes and the diagnosis of Hodgkin's disease was confirmed on biopsy.

ically ill—and never had a pulse rate exceeding 100. Also, if the diffuse respiratory symptoms had preceded the fever by 1-2 weeks, the possibility of bacterial infection was much enhanced.

It was also of interest that in 82 of the 100 patients, the symptoms were sufficiently localizing, or involvement of the respiratory tract was sufficiently diffuse, to make the diagnosis apparent. In only 18 of the patients were there non-specific or misleading symptoms when the initial history was taken. Of these 18, the diagnosis was apparent on completion of the physical examination in three, and was apparent in four more on the second day of illness (measles, chickenpox, pneumonia, and Vincent's infection). Laboratory reports were diagnostic in four more and the clinical course was diagnostic early in four others, leaving three patients of the

SUMMARY OF BACTERIAL INFECTIONS

- Respiratory Tract* (37)—including acute bronchitis, pneumonitis, pneumonia, tonsillitis, pharyngitis, and Vincent's infection.
- Urinary Tract Infections* (14)—including cystitis, pyelitis, epididymitis and prostatitis.
- Miscellaneous* (10)—including cellulitis, erysipelas, abscess of hand, cholangitis, subacute bacterial endocarditis, paratyphoid fever, liver abscess, leptospiral infection.

SUMMARY OF VIRAL INFECTIONS

- Respiratory Tract* (35)—including adenopharyngeal conjunctival infection and influenza.
- "Childhood Infections"* (3)—including mumps, chickenpox, measles.

While the pulse rate and chills were helpful, other factors must always be taken into consideration, such as the likelihood that the patient's cardiovascular status and physical conditioning will affect the pulse rate, and occasional patients would possibly have a chill at the mere thought of a bacterial infection. Still, most of the athletic and laboring patients

100 in a more difficult to diagnose category (S.B.E., liver abscess, paratyphoid fever). Another point of interest was that of the 15 patients in whom the diagnosis was not readily apparent on completion of the initial history and physical examination, 10 were proven to be bacterial infections.

In summary, a statistical observation was made

that an average physician could expect to recognize the cause of 82% of the infections he encounters in adults obtaining his history, and an additional 3% by the time he completes his physical examination. Minimal and basic laboratory tests would increase his accuracy to 89%, and observation for one day would prove diagnostic in another 4% for an accuracy of 93% in the first 24 hours. He could expect the cause to become apparent in half of the remaining 7% in the first few days, and could expect the other half (3-4%) to be difficult to diagnose.

Therefore, a tendency to thoughtless or hasty administration of antibiotics is decried, and an approach to febrile illness was described which seems

applicable to adult general practice or "family internal medicine" practice. The helpfulness of pulse rate, type of chills, and the presence or absence of diffuse (as compared to localizing) symptoms in the differential diagnosis of virus and bacterial infections was the subject of comment.

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Young Acne Sufferers

Vegetable oils, commonly used in cooking and in salads, have come to the aid of diet-conscious teenagers, who suffer from acne, the so-called "pimples" of adolescence. Dr. W. R. Hubler, Corpus Christi, Texas, said that corn oil, used as a dietary supplement, prevented weight loss and fatigue often associated with low fat diets, a frequent acne treatment.

Working with three different groups of acne patients, Dr. Hubler reported in the June issue of the Archives of Dermatology, published by the American Medical Association, that corn oil was especially well tolerated and "made unpleasant low-fat diets more palatable." "Unsaturated fatty acids in the form of corn oil helped maintain weight and vigor in the average patient with acne."

He said that in one group there was a remarkable improvement in the skin and general condition of five patients. "None of the patients became worse

when corn oil was added to their diets."

In another group of 180 patients studied, the acne condition "seemed to subside more rapidly than in patients treated prior to the use of corn oil." Out of the 180 patients, he had to resort to x-ray treatment in only five in order to produce clearing of their acne. Even patients who suffered from acne in its worst form "improved with remarkable rapidity" with oral use of corn oil.

"All of my acne patients," Dr. Hubler stated, "now are allowed to use corn oil freely in their diets. Seventy-five patients have also used an unsaturated corn oil oleomargarine on their bread without apparent deleterious effects."

The Texas physician pointed out also that in his studies he found that ingestion of corn oil did not influence the normally low cholesterol levels of the teen-agers in any way.

Hepatic Coma Associated with Acute Viral Hepatitis

Recovery with ACTH

Report of one case

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THE ADVANCED ALTERATION of sensorium in the course of viral hepatitis has been of ominous portent. The report of recovery in two cases using adrenocortico-steroids led to widespread trial.¹ The authors of this report indicated that in an experience of more than 1,000 cases of coma in viral hepatitis no other recoveries had been made. Subsequent to this report workers at the Army Hepatitis Center used cortisone, ACTH or both on six cases in deep coma without a single recovery.²

Prior suggestions on the potential value of adrenal cortical extract had been made as long ago as 1937. Claim had been made for recovery from liver coma using adrenal extract in three cases in the late 1940's.³

In the case to be described ACTH was selected in a critical situation mainly because of fear of untoward results using the high dosages of the successful outcomes¹ and the failure of response in the lower dosages in the group that died.³

CASE REPORT

R. W., a 16 year old white male, was admitted to the Winchester Memorial Hospital on October 22, 1953, after an illness of about six weeks characterized by headache, vomiting and deepening jaundice (apparent about three weeks). The illness had been characterized by poor adherence to the local physician's advice with particular failure to stay at rest. Admission was sought because of increasing listlessness and somnolence and inability to retain even water by mouth. It was noted with interest that two siblings had suffered 10 day illnesses characterized by nausea, vomiting and jaundice in the 30 day period prior to illness of the patient and had both recovered completely. The history relative to animal contact or injection therapy in the patient was negative.

Physical examination revealed a normally developed, deeply jaundiced boy, moderately cachectic and quite dehydrated. He was lethargic and responded to questioning cloudily. Temperature, rectally, 100° F. Pulse 60/min. Respiration 16/min. Blood pressure 124/80. Oral mucosa dry. Heart and lungs free of significant pathologic findings. The abdomen was slightly distended. Liver could be easily palpated 4 cm. below costal margin and was smooth and tender. Spleen was not palpable. Ascites of minor degree was thought to be present. No edema noted in scrotum or extremities.

Laboratory findings within the first two days after admission showed WBC 6,000 per cu. mm. PMN 81%, lymphocytes 18%, eosinophil 1%, hemoglobin 14.4 gram, RCV 47.5%. Urine—brown, specific gravity, 1.020, reaction acid, albumin trace, sugar negative, microscopic—rare granular casts and occasional WBC. Serum bilirubin 40 mg.%. Total protein 7.2 gram, albumin 3.6 gram, globulin 3.6 gram. Urinary tests for bile and urobilinogen were strongly positive. Cephalin flocculation 4 plus. Prothrombin time 29 seconds (control 13 seconds). B.U.N. 23.8 mg. Blood chlorides 95 meq. Serum potassium 4.0 meq. Serum sodium 126 meq.

Treatment began with bed rest and dietotherapy with vitamin supplement including brewers' yeast and B complex. Pain in the region of the liver and vomiting precluded oral therapy. Parenteral glucose and electrolytes with vitamin supplement were started on October 24, 1953. Small amounts of Meperidine (25 mg.) were given by injection for pain and restlessness. Vomitus contained blood on this date and Kappadione was administered intravenously. The abdominal fluid increased in amount and presacral edema of mild degree was noted. Salt was removed from the oral intake and Thiomerin, 1 cc., was administered subcutaneously. In the evening of October

26, 1953, the patient became comatose and there was found an increase in serum bilirubin to 44 mg. and rise in prothrombin time to 44 seconds (control 14 seconds). The family was advised that the situation appeared hopeless. Temperature 98.4 F. (R), pulse 110/min., blood pressure 96/70, respiration 30 and shallow.

In the evening of October 26, 1953, ACTH (plain) 25 U. I.M. every six hours was begun. The response was dramatic and satisfying. By October 28, 1953, (36 hours) the patient was receiving adequate oral intake of nourishment and fluids and by November 1, 1953, he was fully alert, cheerful, appetite excellent and pain had disappeared. The dose of ACTH was gradually decreased and entirely discontinued on November 6, 1953. On October 29, 1953, Mephyton (60 mg. I.V.) was administered with prothrombin time at 33 seconds and on October 30, 1953, the prothrombin time had dropped to 19 seconds. There was no further untoward incident. The patient was kept at bed rest, with high calorie intake including salt in the diet. By November 30, 1953, the serum bilirubin was 1.6 mg. and B.U.N. 17.3 mg. The liver edge remained down and at the time of discharge from the hospital December 2, 1953, could be felt 2 cm. below the rib margin, firm and non-tender. He was advised to follow a bed and chair rest program at home with dietary and vitamin supplement instructions. With recovery there was noted an elevation of the WBC count, reaching a peak of 16,500 per cu. mm. and remaining at 11,500 cu. mm. when discharged. The differential count was normal.

On December 11, 1953, the patient was seen as an out patient. At this time the serum bilirubin was unchanged. Bromsulfalein retention was 12% after 45 minutes. The liver edge could be felt about 1 cm. below the rib margin. He was seen for the last time on January 5, 1954, at which time the liver edge was barely palpable on deep inspiration. Serum bilirubin 0.55 mgm.% and the bromsulfalein retention was 0.5% after 45 minutes. He was allowed to return to free activity.

DISCUSSION

From the one case here presented and the excellent result reported in the year preceding using ACTH and cortico-steroids there seemed little doubt that the knotty therapeutic problem of hepatic coma was about to succumb to these therapeutic advances. Now four years since the dramatic response obtained it becomes evident that hepatic coma has yet found no single

agent conqueror. ACTH and adrenocortico-steroids have not sustained the initial promise and some workers find no use for these hormones in the armamentarium.

Since 1950, the additions to treatment aside from the hormones and the basic regimen of parenteral glucose, electrolytes, and Vitamin B Complex and Vitamin K are several. Chlortetracycline has maintained a position of usefulness on the basis of changing bacterial flora of the intestine and reducing the formation of ammonia. Glutamic acid used to detoxify circulating ammonia (Walshe, J. W.) has in general failed to be of significant benefit in a number of series.^{6,7,8,9} Arginine, also acting as an ammonia detoxifier, is at this time debatable so far as usefulness is concerned having its proponents⁹ and opponents.⁷ With the incrimination of ammonia¹⁰ as the toxic substance creating the neurologic manifestations in hepatic coma, most scholars in this entity have rejected the oral or parenteral use of protein or the NH_4 ion.^{6,7,9,11} Some little doubt as to the importance of defective nitrogen metabolism is cast by at least one eminent worker, however.⁸

Thirteen cases of coma due to acute viral hepatitis and not associated with months or years of intermittent relapsing liver disease (hepatic cirrhotic or other cause) were found in the English literature and thought comparable to the case here presented. All had been treated with ACTH or adreno-corticoids. Only 3 recovered. (Ducci¹, Evans², Alexander¹², Spellberg⁸.) Adding the case reported here brings the total to 14 with 4 recoveries. Seventeen cases of comparable cause and symptoms who were not given ACTH or corticoids^{13,11} resulted in 3 recoveries. Certainly the case for hormonal therapy is not established.

The risks involved in hormonal therapy pertain to electrolytes imbalance, fluid retention and upper intestinal tract erosion and bleeding. These risks may be less than has been stressed when the natural pathology of the disease is scrutinized.⁴ One author recently proclaims that the usefulness of hormones in hepatic coma far outweighs the risk.⁸ Most workers agree that even though unimpressed by the information in support of adrenal hormones as the therapy of first consideration, the usually fatal outcome of hepatic coma, particularly subsequent to hepatitis, justifies the use.⁷

Little more than speculation is available to explain the action of ACTH and cortico-steroids. Spellberg⁸ has summarized a theory suggesting pituitary suppression secondary to advanced liver disease

on the basis of known decrease in the 17 hydroxy-corticoid output. He has also demonstrated a rise in blood and urinary 17 hydroxy-corticoids in liver coma using ACTH or corticoids. There is no definite proof in favor of one or the other hormonal substance as the agent of choice.

It is difficult to deny the life-saving action of the ACTH in the case presented. Adherence to other principles of therapy involving the use of glucose, electrolytes, vitamins K and B complex, protein and NH_4 ion restriction, prevention of bleeding and removal of blood from the intestinal tract, antibiotic therapy, blood replacement and ventilatory support is essential. The use of arginine demands more study and confirmation. ACTH and adreno-corticoids should be used when the latter stage of sensorial disturbance is reached.

SUMMARY

1. Reflections on the infrequency of recovery from hepatic coma are made.
2. A case of coma subsequent to viral hepatitis that recovered after ACTH was added to the therapeutic regimen is presented.
3. The status of current therapy for hepatic coma is briefly reviewed.
4. ACTH and cortico-steroids are advocated for the case of liver disease in deep coma.

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Gonorrheal Arthritis

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ACUTE ARTHRITIS involving only one joint may be due to gout. Other causes are more likely and have to be differentiated when seen in a young colored female. Such a case was recently seen that had been undiagnosed and mistreated.

CASE REPORT

C. C., a colored female, age 16, was first seen on 12/17/58 complaining of pain and swelling in the left wrist and hand for three months. Onset was acute. Treatment from another physician was symptomatic, including application of a cast. There had been no improvement except from transition from the acute to subacute stage. Further pertinent history revealed that she had noticed a vaginal discharge for about four years, there had been moderately severe pelvic and back pain for several months, and that she had hot flushes and was nervous. Menstruation was regular but painful. She had been promiscuous in her sexual habits.

Examination revealed a poorly nourished colored female. There was moderate swelling, tenderness to pressure, and pain on motion of the left wrist. Pelvic examination revealed a large eroded cervix. The uterus was posterior, normal size, and acutely tender. There were bilateral acutely tender adnexal masses. Smears from both the urethra and cervix revealed many gram negative intracellular diplococci. Diagnoses were (1) gonorrheal arthritis of the left wrist, (2) gonorrheal pelvic inflammatory disease, and (3) hypoovarianism. Treatment consisted of cauterization and conization of the cervix, penicil-

lin, and estrogen. No local treatment was given to the wrist. Improvement was dramatic. The wrist became asymptomatic except for residual stiffness, and the pelvic infection showed immediate improvement.

It seems that the improper diagnosis and treatment of a case of acute gonorrheal arthritis is clearly demonstrated here. Certainly, gonorrhea is still common enough to be considered in the differential diagnosis of acute arthritis, especially when it involves only one joint. And certainly, once diagnosed, the treatment with penicillin is most simple.

The differential diagnosis should offer little difficulty. Osteoarthritis is not a factor here because of age. Rheumatoid arthritis and rheumatic fever would be unlikely with just one joint involved for three months. Gout causes acute monoarticular arthritis but has a different clinical course and is rarely seen in a young female. This leaves infectious arthritis as an almost certain diagnosis. The history and examination confirmed the origin and kind of infection.

SUMMARY

A case of undiagnosed and mistreated gonorrheal arthritis is presented. Differential diagnosis and treatment is discussed. Symptomatic treatment of this type of case is definitely inadequate in this era of specific therapy.

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Pre-Paid Medical Care

Edited by

RICHARD J. ACKART, M.D.

What They Are Doing.

The cost of health services projected by the rate of utilization of those services equals money out of people's pocketbooks. Twenty-five years ago the persons who were truly concerned with this "axiom", those persons whose pocketbooks were involved, were the relatively few individuals who had occasion to use health services. Even at the relatively low costs and utilization rates then existent, many of these individuals had their pocketbooks depleted when meeting the expense of the health services they needed. The situation called for corrective action, and the doctors and hospitals across the country established Blue Cross-Blue Shield Plans to provide it—they adapted the "spread-the-risk" principle to the field of health-care expense, establishing non-profit, community service organizations to run the "business".

During the ensuing quarter century, spreading the risk of health-care expense became "big business". Each year saw an increasing number of people subscribing to the idea of periodically paying small amounts into a "pool" from which would be paid the large amounts needed to cover the health-care expenses of those participants who became sick or injured. Today three-quarters of the population participate in a "spread-the-risk" plan of some kind, and today the "axiom" involves not only the people who have need of health services but just about everybody. Because of participation in some spread-the-risk plan, just about everybody, the healthy as well as the sick, finds his pocketbook is affected by changes in the cost of health services and by changes in the rate of utilization of those services. Just about everybody is understandably perturbed that the now precipitously rising costs and utilization rates are hurting him in the pocketbook.

The people of several states, through their governments or other agencies, are taking a close look at just how health services are provided and used. This is what they are doing.

Kansas:

A Joint Committee of Blue Cross-Blue Shield, Kansas Hospital Association, and Kansas Medical Society has initiated a study on Utilization of Hos-

pital Facilities which is being conducted by the medical staffs of approximately 100 hospitals throughout the State. Its purpose is to develop a way for medical staffs to routinely evaluate a sample of cases for the detection of possible faulty usage. This study has been in progress since September 1958 and should be completed in the near future.

Massachusetts:

A dual study has been undertaken by the Blue Cross Plan and the Massachusetts Hospital Association, and has been under way since late last summer. Phase 1, conducted by the Blue Cross Plan, is a study of the cost of hospital services extended to Blue Cross member patients as compared to the costs of services rendered to non-Blue Cross patients. It is estimated that this phase will take about 15 months to complete and will cost approximately \$50,000. Phase 2 is designed to ascertain the non-medical factors and family situations which lead to hospital utilization, as well as the medical reasons for such admissions given by attending physicians. This phase will be conducted by the Health Information Foundation in conjunction with the National Opinion Research Center of the University of Chicago. This project, which will cost about \$200,000, is to be paid for by the Health Information Foundation and is under the direction of Odin W. Anderson, Ph.D., of HIF and Paul S. Sheatsley of NORC. This phase has the active support of the Massachusetts Medical Society, Massachusetts Hospital Association, and the Blue Cross-Blue Shield Plans.

Michigan:

An outgrowth of hearings held by the Governor's Study Commission on prepaid hospital care plans, a detailed study was started last year by the University of Michigan. Its anticipated cost is \$325,000 which will be contributed by the W. K. Kellogg Company; the project director is Prof. Walter J. McNerney, Director, Programs in Hospital Administration, University of Michigan. With the active support of the Michigan State Medical Society, Michigan Hospital Association, and Michigan Blue Cross Plan, the project is on a state-wide basis and is designed to cover the following major areas:

- (1) Physician influences on hospital utilization.
- (2) Household survey to determine means of financing, and attitudes toward, medical expenses.
- (3) Hospital accounting and reimbursement.
- (4) Insurability of hospital services, cost trends, and related factors.
- (5) Prepayment and insurance agencies.
- (6) The effect of controls exerted by various agencies on quantity, quality and cost of health services.
- (7) Discharge (case) study.
- (8) The roles of government agencies in providing or financing health care.
- (3) Hospital reimbursement cost formulas.
- (4) Utilization of hospital facilities and trends in their use.
- (5) Financial structure of plans including operating costs and benefit provisions.
- (6) Legal handicaps.
- (7) Experience rating versus community rating.
- (8) Representation on Boards of Directors.

Ohio:

Just under way is a study by the State Department of Insurance which has requested that hospital costs and the utilization of hospital facilities be investigated in the 15 counties served by the Cincinnati Blue Cross Plan. Initially, a series of questions by the Department has been sent to all Ohio Blue Cross Plans and it is planned to present an outline for the study to a special committee of the Hospital Advisory Council.

The Cleveland Blue Cross Plan is bringing to completion a study which has been under way for three years. Limited to the five counties that made up the original operating area of the Cleveland Plan, the survey is being conducted by Howard Whipple Green and Associates. Its estimated cost is \$150,000 and its areas of study are Availability of Hospital Facilities, Hospital Costs, and Utilization of Hospital Facilities.

Pennsylvania:

The Governor has appointed a 43 member commission under the chairmanship of State Insurance Commissioner Francis R. Smith to study:

- (1) Availability of hospital facilities.
- (2) Hospital costs.
- (3) Utilization of hospital facilities.
- (4) Blue Cross payments to hospitals.
- (5) Blue Cross reserves.
- (6) Blue Cross administration.

Still in the planning stage, it is expected that this study will also embrace problems of hospital administration, government subsidies for free care, clinic and outpatient methods, and fees for the care of long-stay and convalescent patients. It is estimated that this study will require at least two years to complete and will cost about \$300,000; to be financed by the State, the five Blue Cross Plans, and other organizations.

New Jersey:

Instigated in mid-1958 by Charles R. Howell, New Jersey Commissioner of Banking and Insurance, a study is being conducted by a Citizens Committee. Primarily concerned with utilization of hospital facilities and its relation to Blue Cross rates, the study is believed to have been instigated in response to labor group pressure following hearings on Blue Cross rate increases in March 1958. The exploratory work is being conducted by Dr. Sidney I. Simon of Rutgers University and indications are that the following areas will be studied:

- (1) Availability of hospital facilities.
- (2) Hospital Costs.
- (3) Utilization of hospital facilities.
- (4) Blue Cross payments to hospitals.
- (5) Blue Cross reserves.
- (6) Blue Cross administration.

New York:

Requested by the Superintendent of Insurance, a study is being conducted by Columbia University School of Public Health and Administrative Medicine under the direction of Ray E. Trussell, M.D., Associate Dean. Its cost, about \$150,000, is to be financed by the 19 non-profit health insurance plans in the State, including eight Blue Cross Plans, in proportion to their total respective annual incomes. Designed to provide a basis for the determination of fair and equitable rates for prepayment, the study will cover these areas:

- (1) Historical development and public purpose of the non-profit plans.
- (2) Operations of hospitals.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Mouth-to-Mouth Rescue Breathing

"Expired air inflation" is a general term for all variations of mouth-to-mouth resuscitation. Resuscitation with expired-air breathing is simple and effective. It is especially useful in cases of injury to the body. It may be adapted readily to infants, children, and adults without adjunct equipment. It reflects the basic physiological principle of employing expired air as the ventilating gas for all modifications of this method. This includes variations in the technique or the use of adjunct equipment. Direct mouth-to-mouth, direct mouth-to-nose, mouth-to-mask, mouth-to-airway (oropharyngeal), mouth-to-tube, (endotracheal), and mask-to-mask methods are all included in the term "expired air inflation."

The most important advantages of this type of resuscitation are:

- It is superior in ensuring adequacy of pulmonary ventilation;

- It is the only technique allowing the rescuer to be stationed at the patient's head to monitor the airway and its patency;

- It requires a low expenditure of energy and thus can usually be continued for hours by most operators;

- It is a universal method for all ages and sizes;

- Small or young individuals can perform satisfactorily on subjects much larger than themselves;

- It can be performed without any equipment or adjuncts;

- It does not require any special training;

- Most people can learn the technique by watching a demonstration or a movie;

- Practice sessions, while helpful, are not necessary.

The most important single factor in assuring adequate ventilation is maintenance of an open, natural airway by proper extension of the neck and elevation of the jaw. This prevents obstruction of the airway above the larynx. In expired-air breathing this type of obstruction is prevented as the hands are free to keep the head extended and the lower jaw displaced forward. If there is an obvious mechanical obstruction in the airway, the first thing to do is to remove

it. If there is no such obstruction, start with mouth-to-mouth breathing at once. With each breath the operator can estimate the presence of obstruction, the degree of inflation and the degree of relaxation of the victim's chest.

The technique for mouth-to-mouth resuscitation is as follows:

The victim is placed in the supine position with head extended and the rescuer is stationed at the side of the head. The latter places the fingers of both his hands beneath and behind the angles of the lower jaw of the victim and lifts vertically upward. This lifts the mandible and brings about partial temperomandibular separation; the hyoid bone and the floor of the mouth are also drawn upward. The tongue is thus effectively cleared from the oropharynx since it is attached to the mandible, hyoid bone, and floor of the mouth.

The rescuer places his mouth over the mouth and nose of the victim, or over the mouth while pinching the nose, and breathes into the airway until he sees the chest wall rise adequately or feels the resistive force exerted by the expanded lung and chest wall. The rescuer then removes his mouth and allows the lung to deflate passively. As soon as it is clear that the airway is patent, the rescuer may move one hand to the epigastrium and exert continuous moderate pressure between the costal margin and the umbilicus. This prevents air from passing down the esophagus to cause gastric distention. This pressure also causes previously swallowed air to be easily belched up. The pressure on the stomach may also cause regurgitation of water swallowed during submersion, or of recently ingested foods. In such a case, the victim should be quickly turned to prone, head-down position to secure adequate drainage.

For infants and small children the inflation rate should be at least 20 times per minute. If the operator begins to develop hyperventilation, he should slow his rate or stop to take one normal breath each minute.

While mouth-to-mouth breathing can be performed without any equipment or adjuncts, the use of masks, oropharyngeal airways, or endotracheal tube facilitates mouth-to-mask, mouth-to-airway or mouth-to-

tube ventilation. The use of mask-to-mask method permits the use of expired air inflation in a contaminated atmosphere.

The mouth-to-mouth method of artificial respiration has been officially adopted by the U. S. Army and Air Force and is being considered by the Navy. The American National Red Cross has accepted it for emergency resuscitation of infants and small children. The National Academy of Sciences' National Research Council has recommended its adoption by the American National Red Cross as the method of choice for all ages.

The Virginia State Department of Health is endorsing this as the method of artificial respiration which should be used in common emergencies. It requires less expenditure of energy than that of any manual method. It can be used by a child, a housewife, a lifeguard, a nurse, or a doctor in any emergency. It can usually be continued by most operators for hours.

Experience with mouth-to-mouth technique and its variants in emergency resuscitation of hospital patients and physiological measurements made under controlled conditions indicate that two important precepts must be followed:

- 1. A patent airway must be properly established and maintained.
- 2. Inflation volumes of a liter or more must be delivered to an adult victim's lung at a rate of 12 to 20 per minute.

The victim's alveolar carbon dioxide level re-

mains below normal and his arterial oxygen saturation above normal because of mild hyperventilation on the part of the rescuer.

The teachability of mouth-to-mouth breathing is demonstrated by the fact that 90% of 164 untrained rescuers performed this method satisfactorily after one demonstration. Women and children who weigh 100 pounds can adequately ventilate victims who weigh 200 pounds.

Physicians will be called on to render their opinions and advice on this method of life saving. They should consider expired air inflation in their contacts with appropriate community groups and should realize that many lives might be saved through the acceptance and use of this highly successful method of emergency resuscitation.

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J. A. M. A. 167: 3, May 17, 1958.

Personal Communication: James L. Goddard, M. D., Chief, Accident Prevention Program, Division of Special Health Services, USPHS, Department of Health, Education, and Welfare.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	May 1959	May 1958	Jan.- May 1959	Jan.- May 1958
Brucellosis -----	2	3	10	7
Diphtheria -----	1	1	4	12
Hepatitis -----	25	24	189	125
Measles -----	3198	6659	12170	16498
Meningococcal Infections -----	11	8	51	42
Meningitis (Other) -----	15	11	103	83
Poliomyelitis -----	6	1	8	5
Rabies (In Animals) -----	21	20	86	178
Rocky Mountain Spotted Fever -----	6	0	8	1
Streptococcal Infections -----	897	795	5547	3972
Tularemia -----	1	0	7	15
Typhoid Fever -----	4	1	10	10

The Medical Society of Virginia . . .

Principles and Policies

The following Principles and Policies, adopted by the House of Delegates last October, are reprinted as directed by that body. It is earnestly requested that all members read these Principles and Policies with great care.

We reiterate the fundamental principles which the profession of medicine has always accepted and by accepting has gained the confidence and respect of humanity. From the Hippocratic Oath to the most recent revision of the Principles of Ethics of the American Medical Association and the opinions and reports of its Judicial Council, through the teachings of medical philosophers down through the ages, the same basic principles have survived. Cultural, social, and economic attitudes have altered details of application but the principles are basic and unchanged.

As stated in the preamble of the recent revision of the Principles of Medical Ethics, "These principles are intended to aid physicians individually and collectively in maintaining a high level of ethical conduct. They are not laws but standards by which a physician may determine the propriety of his conduct in his relationship with patients, with colleagues, with members of allied professions, and with the public."

We are firmly convinced that the survival of the medical profession as a group of dedicated individuals, free to serve without limitation except as imposed by the available scientific knowledge and art of application, depends completely upon the adherence and conformance of the medical profession individually and collectively to those basic and fundamental principles.

In accord with those principles there are certain privileges and obligations which may be enumerated.

First, of the physician himself:

1. The right of the patient to the free choice of the physician who attends him.
2. The freedom of the attending physician to treat his patient in accordance with currently accepted procedures, and without interference by a third party.
3. The right to charge a fee for services consistent with the service rendered. The skill and capability

of the physician, the time and effort required, and the capacity of the patient to pay.

4. The obligation of a good citizen to his community and his colleagues.

5. The duty to support, to consult with, to aid, advise, and teach other members of his profession.

6. The right of each duly licensed member of the medical profession to be considered capable of rendering medical services in accordance with law and local practice, unless otherwise determined by his peers.

In willing and cheerful return for the rights and privileges granted to the profession as a whole and to its members each individual has an obligation to:

1. Render good, efficient, and honest services to his patients and their families in conformance with policies accepted in his own community.

2. Charge fees for services rendered which are reasonable and in accord with the patient's capacity to pay, and to willingly explain the fees charged and the reasons therefor.

3. To assist any person in an emergency to obtain needed medical attention, regardless of the ability to pay, and if medical services are personally rendered, to continue such services until the family physician is available or until adequate time and opportunity is afforded to secure replacement.

4. To grasp every available opportunity to read, study, and attend meetings and seminars to maintain and improve his competence in the art and science of medicine.

5. To secure consultation or assistance, or to refer the patient to a more capable or better trained physician, when the character of the illness or the complications of the case indicate the need of assistance or his lack of capacity in that particular case.

6. To secure consultation or make referral on the basis of ability and capacity rather than because of friendship or the expectation of reciprocated favors.

7. To refrain from the splitting of fees in any guise, and to confine his income from the practice of his profession solely to fees for services actually rendered.

8. To contribute to his community as a good and active citizen, participating in every worthwhile community enterprise to the extent permitted by the needs and demands of his patients.

9. To participate regularly and actively in the local, state, and national organizations representative of his profession.

As the individual member of the medical profession has privileges and obligations, so have the organizations of individuals, the medical societies. Chief among them are:

1. To examine carefully and critically the training, capability, character and practice of applicants for membership and of its members, for the assurance that they are capable of and are delivering the type and character of service the public has a right to expect and believes it receives from those accepted into membership in official medical organizations.

2. To investigate and determine abuses in the practice of medicine, and of violations of accepted principles of medical practice or of ethics, and to discipline proven violators by appropriate action taken without fee or favor.

3. To study and investigate proposals for new and untried forms of medical practice based on changes in social or political concepts, and when those proposals fail, to conform to the basic accepted principles of policy and medical ethics to withhold approval and discipline violators.

4. To study and investigate proposals for the medical care of indigents, whether by private or public agency, in order to assure that regardless of the source of financial support, local control and direction is retained.

5. To perfect arrangements whereby emergency, night, holiday, and week-end medical services are available when required.

To attain the implementation of the preceding

principles and policies it is recommended that:

1. Wide publicity be given the principles and policies as adopted, first, through the Virginia Medical Monthly and the sending of reprints to each physician licensed to practice in Virginia, and later, through the various media for public information.

2. Appropriate committees be appointed to (a) rule on questions of principles and policies as they arise and (b) to investigate and recommend appropriate action when violations are determined. The State Medical Society Committee should consist of not less than eight (8) members appointed by the president of the Society.

3. It is further recommended, that local committees on the principles and policies of the medical profession be established in each constituent society.

4. Further to make effective these recommendations, that the activities and functions of the Mediation and Ethics Committees be evaluated and clarified.

Although the following two recommendations were not adopted by the House of Delegates they will quite likely be considered again during the 1959 Annual Meeting in Roanoke. Your thoughts should be made known to your local society.

1. That these principles and policies be written into the constitution of The Medical Society of Virginia and that the Judicial Committee be instructed to accomplish that effort.

2. That study be made of the feasibility of incorporating these principles and policies into the Medical Practice Act that the sanction of law may give weight and add authority to enforcement.

TV Viewing Does Not Create Need for Glasses

Television viewing does not harm the eyes, Dr. Robert J. Beitel, Jr., a leading eye physician, believes. "Watching TV," he said, "will not create a need for glasses that did not already exist. Frequently, a person with a minor eye defect, such as near-sightedness or astigmatism, may find he needs glasses after viewing TV. In such a case, television detects rather than causes the trouble."

However, improper viewing habits can tire the eyes needlessly. "If you were to stare at a spot on the wall for several hours, your eyes would become tired. The same fatigue occurs when you watch TV for a long time. Rest your eyes periodically."

Dr. Beitel, chairman of the Conservation of Vision Committee at the Pennsylvania Academy of

Ophthalmology and Otolaryngology, suggests a number of ways to avoid needless eye fatigue in the April 25th issue of TV GUIDE magazine.

"The room-lighting around your set should not approach the intensity of the light from the screen. Lamps used along the side of the room tend to throw light in your eyes. The ideal place for TV lighting is behind you."

Dr. Beitel also suggested the viewer watch the screen from a reasonable distance and sit directly in front of his set.

However, he offered a note of caution. "If you're sure you're practicing the best viewing habits and you still suffer prolonged eye discomfort, have your eyes examined by an ophthalmologist."

Speech given by Congressman Burr P. Harrison before the King's Daughters' Hospital, dedicated at Staunton, Virginia, February 8, 1959.

I am honored to be invited to share this happy occasion with you and to join in paying tribute to the unselfish work, the sacrifices, the tireless effort for hours and days and weeks and years of those who planned, who solicited, who organized, who contributed, who managed and who produced this new wing from the intangible of a dream to the solid brick and mortar reality of this beautiful building with 33 new beds for the relief of the sick and maimed of this community. They have brought to fruition a hospital which is a credit to this community—a community worthy of this hospital.

The progress during our century in the business of caring for and healing the ill has been incredible. In 1900, a new-born Staunton child could expect to live 47 years. A baby born in this magnificent hospital today, if a boy, has a life expectancy of 67 years. If the baby is of the so-called "weaker sex", she can expect to live past 73.

Today, the hospital is not a place to go to die, but a place to come to live. Today, the hospital is not a private venture for gain, but an eleemosynary institution, managed, like King's Daughters, by an unselfish and indefatigable trustees dedicated to the prolongation of life and the relief of human suffering. Today, the sick and infirm are not entrusted to cruel or drunken Sairey Gamps but to the sure and calm hands of thoroughly trained graduate nurses—women who take pride in their profession and whose profession takes pride in them. Today, the preparation of medicines is not under the direction of some unlicensed pill peddler or keeper of a dirty apothecary shop, but only by a pharmaceutical chemist whose proficiency and integrity are certified by college degree and state board of examiners. Today, the professional staff of a hospital does not include any half-trained sawbone or any medical charlatan of dubious capacity but only of highly skilled men and women whose professional attainments and capacity have gone hand in hand with the marvels of scientific advance. Life on earth is prolonged more and more as all these people—doctors, nurses, hospitals, druggists—advance in skill

and capacity. Deeply allied to such progress is the pride and satisfaction in his own accomplishments that come to the individual because he is a free and independent contractor. Smother this spirit of personal pride in accomplishment which accompanied independence under a blanket of bureaucratic regimentation and progress in the healing of disease and the prolongation of life will smother with it.

Marvelous as has been the progress in the last half century, great as have been the achievements, they are not enough and we must do even better. The fact that this new wing contains an unfinished interior of a third floor to allow future addition of 32 beds, the fact that this new wing is designed so as to carry two additional floors which, when built, will increase this hospital's capacity from 150 to 250 beds, shows that the farseeing board of trustees realizes that the future will not permit us to rest on today's accomplishments.

A restless, discontented, never satisfied spirit is the genius of the American people and the explanation of their leadership in the world. But the application of this spirit to the medical and hospital endeavor confronts us with formidable problems that press for early solution.

A recent article in a national magazine which includes excerpts from a study of patients' complaints points up that there is professional concern about the harsh impersonality of some hospital routines. The good doctor and nurse will meet this type of complaint by striving to know the patient through and through, or as Sir William Osler said, "It is more important to know what type of patient is suffering from a disease than what type of disease the patient is suffering from."

The great challenge we must face is the complaint that hospital care—the best that a first class hospital such as this has to offer—is being priced out of the reach of all but the indigent, who will not be required to pay, and the very wealthy, who do not have to worry about the bill. This argument is especially applied to the plight of the elderly, faced with the increasing costs for treatment of the multiplying disorders of advancing years, while their earning power has vanished.

The hands of government bureaucracy itch to attempt solution of these problems with a medical program of impersonal mediocrity.

Since 1947, independent hospitals in the United States, about half of which have received some federal help in Hill-Burton funds, have built or expanded over 8,000 hospitals and provided for a grand total of 550,000 new beds in 11 years. In the medically socialized British Isles, one small hospital has been built during the same period, with the result that in England, land of free medicine, 431,000 persons are on the waiting lists for hospital beds. For surgery, an Englishman waits an average of 53 days.

Today, in Washington powerful groups are pressing for enactments to provide medical benefits for all citizens eligible for regular old age insurance and there are other bills to set up federally-subsidized health insurance plans. If we expand the existing total and permanent disability provisions of the Social Security laws to take in all disabilities requiring medical attention, there will be federal regulations, criteria, and examinations for the elderly applicant to contend with, and the family doctor and private hospital staff member will have very little to say about the care and treatment of an increasingly numerous age group in our population.

For some time, I have had no hesitancy in warning my doctor friends that time was approaching when loud cries of "socialized medicine" no longer would be enough to convince the people that a proposal for governmentally-supported health insurance was all bad.

I think the best promise for continuance of our present system of private medicine, with free choice of doctor reserved to the patient, lies in the wakening of the medical profession to the realization of its responsibilities. In the councils of the profession today, we find earnest talk of the problem of keeping medical care within the means of the patient and making it available to the elderly on a realistic basis.

It will not be easy to come up with workable solutions, but the fact that finding them now is recognized as their responsibility by the doctors themselves, and by the private health insurance industry, represents a real hope that this fine hospital, and the thousands like it throughout the land, will continue to serve their communities faithfully and well under personalized local direction, rather than under the stifling control of a corps of doctor-bureaucrats headquartered in Washington.

As we dedicate this new wing to the public service, let us, both professionals and laity, dedicate ourselves to the solution of the problems that will

preserve our freedom to select our own hospital, our own nurse, and our own family doctor.

Norfolk's Polio Campaign Reactivated

On March 5, 1959 Norfolk's "one dollar a shot" poliomyelitis vaccine program was reactivated for children from the ages of six months to six years. There had been a 44% rise in the incident of paralytic polio in 1958 over the 1957 figure. The attack rate was highest in the one year olds and more than 50% of the paralytic cases were under five years of age.

Norfolk began its first highly successful polio campaign in March 1957. It was a self supporting pay as you go plan resulting in over 135,000 people being vaccinated and ended with a profit. This has been described by others as being "outstanding and unprecedented in community service". Norfolk is now known as the pioneer city in the "one dollar a shot" program. Many other communities throughout the nation have followed its lead.

On April 12, 1955, Dr. Jonas E. Salk, developed the polio vaccine that has since been proven to be safe and effective. Following the A.M.A.'s recommendations, a joint meeting was held on February 13, 1957, in Norfolk. This consisted of representatives of the Norfolk County and Portsmouth Medical Societies, local health department and the local Polio Foundation Chapter. It was agreed that the Medical Societies would furnish teams of physicians to give the injections and the public health officials would provide nurses, equipment and the vaccine. The Polio Foundation appropriated money and furnished volunteer helpers; P.T.A., Junior Women's Club and other civic groups furnished additional volunteers.

The clinics were held in centrally located schools; eight in Norfolk and five in Portsmouth. The clinics were scheduled as follows: Two days a week from 7-9 p.m. They were held during the first two weeks in March, April and November, 1957. The charge was "one dollar a shot", with indigents receiving the vaccine free.

Financially, the county governments voted \$26,500 and the polio chapters voted \$15,000 for the project. The vaccine was purchased by the Health Departments for 63¢/cc. Publicity consisted of front page articles in newspapers. Radio and television furnished additional heavy support. Civic clubs also gave helpful publicity.

At the termination of the third clinic, 123,432 shots had been given. None of the \$36,500 appro-

priated was required. On the completion of the "one dollar a shot" program, there was a \$7,557 profit. This has been used to buy additional syringes, needles and vaccine for a public school immunization program and public health clinics. The vaccine dispensed in this program was high as the single syringe withdrawal technique was used to prevent hepatitis. As there was a shortage of syringes, this technique could not always be carried out. As a result of this mass immunization approximately 135,000 people, who might otherwise not have been protected, are now vaccinated.

At the completion of its second clinic on April 2, 1959, 1,656 injections had been given to the preschool children. A survey in Norfolk indicated only 58% of first grade schools had three polio shots. The twelve schools used as vaccination clinics were those with the lowest percentage of first grade children that had received the polio vaccine. The charges were one dollar for one child, one-fifty for two children, and two dollars for three or more children. No charge for indigents.

It is the responsibility of organized medicine to protect the health of the American people. The real enemy now is not the disease, but inertia and public apathy. The prevention of polio is as much an educational problem as it once was a medical problem. Special efforts must be made to reach the "hard-to-get" segment of the population identified as low income families.

We in Norfolk, Portsmouth and South Norfolk are proud of this all inclusive self supporting polio-myelitis vaccination program. Through the enthusiastic cooperation of all, the plan has been a great success for the mutual benefit of the communities.

Members of the Norfolk County Medical Society Polio Committee are: Mason C. Andrews, M.D.; Donald L. Faulkner, M.D.; Herbert W. Fink, M.D.; George P. Hand, M.D.; J. M. Huff, M.D., and John S. Thiemeyer, M.D., Walter B. Martin, M.D. and Aubrey L. Shelton, M.D. were Co-chairmen.

Fashionable Clothing For Physically Handicapped

Physically handicapped persons can now buy clothing specially designed to combine fashion and function. The clothing was designed at the Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, after consultation with Mrs. Helen Cookman, a fashion designer.

Physically handicapped persons have specific clothing problems, Dr. Howard A. Rusk and Eugene J. Taylor of the New York University-Bellevue Medical Center explained in the April 4th Journal of the American Medical Association. They need clothing designed to permit greater ease in dressing with their limited muscle strength or range of motion. The fabric must also be strong enough to withstand the undue wear caused by friction from crutches or wheelchairs and by the strenuous activity required by handicapped persons in dressing. In addition, the clothes should be fashionable enough to permit greater social acceptance and increased self-esteem by the disabled persons.

Of the 17 items designed so far, six are now on

the market. These include slacks for men and coat-dresses and suit-dresses for women. The clothes for women are especially designed to counteract the destructive effect of crutchwalking. Fabrics are mostly wash-and-wear nylons and Dacrons, stitched with the strongest threads available, but care has been taken that the fibers do not generate too much electrostatic charge and will not cause wheel chair problems by sticking instead of sliding. Emphasis was also given to the use of closures which can be easily managed.

The clothing is being produced by a new, non-profit organization, Clothing Research, Inc. It is conducting a market test through direct mail selling. If the market test indicates a sufficient market for the clothing, additional garments will be produced and will be distributed through normal commercial channels.

Specific information about the clothing may be obtained from Clothing Research, Inc., 307 W. 38th St., New York 1.

Woman's Auxiliary . . .

<i>President</i> -----	Mrs. Charles A. Easley, Danville
<i>President-Elect</i> -----	Mrs. Walter A. Porter, Hillsville
<i>Vice-Presidents</i> -----	Mrs. George K. Brooks, Richmond
	Mrs. James M. Moss, Alexandria
	Mrs. W. A. Eskridge, Parksley
<i>Recording Secretary</i> ---	Mrs. Robert B. Keeling, South Hill
<i>Corresponding Secretary</i> ---	Mrs. J. J. Neal, Danville
<i>Treasurer</i> -----	Mrs. Wyndham B. Blanton, Richmond
<i>Publication Chairman</i> ---	Mrs. Custis L. Coleman, Richmond
<i>Directors</i> -----	Mrs. J. R. St. George, Portsmouth
	Mrs. Lee S. Liggan, Irvington
	Mrs. Maynard Emlaw, Richmond

Richmond.

On May 15th, the Auxiliary to the Richmond Academy of Medicine held a luncheon and business meeting at the Branch House. Since the April meeting, a tea for new members was held at the home of Mrs. Wyndham B. Blanton, Jr.

As we listened to committee reports from the many members who have contributed their time and talents this past year, we felt justifiably proud of the year's accomplishments under the excellent leadership of our president, Mrs. William F. Grigg, Jr. Several accomplishments stand out especially in review—the convention in October and the wonderfully successful house tour for the benefit of Sheltering Arms Hospital—the excellent program of nurse recruitment—the impressive collection of drugs for Sheltering Arms—our delightful Doctor's Day Dance—and a succession of fine programs.

The May meeting officially closed the 1958-59 year with election and installation of officers. They are Mrs. Wyndham B. Blanton, Jr., president; Mrs. Walter H. Buffey, president-elect; Mrs. Bernard D. Packer, vice-president; Mrs. William M. Eagles, treasurer; Mrs. Hunter S. Jackson, corresponding secretary; Mrs. Berkeley H. Martin, Jr., assistant corresponding secretary; Mrs. L. Benjamin Sheppard, recording secretary; and Mrs. Maynard R. Emlaw, parliamentarian.

EDITH V. HAWKINS (MRS. J. HENRY)

Northern Neck.

The spring meeting of the Auxiliary to the Northern Neck Medical Association was held at the Indian Creek Yacht and Country Club, Boynton, on May 28th, with Mrs. E. T. Ames, president, presiding. After the business session and various committee reports, the president presented Mrs. Walter A. Porter, president-elect of the State Auxiliary. Mrs.

Porter brought an interesting, inspiring and challenging message.

The slate of officers, presented by the nominating committee, was duly elected and then installed by Mrs. Porter, as follows: President, Mrs. M. B. Lamberth; president-elect, Mrs. Leonard Booker; vice-president, Mrs. C. Y. Griffith; recording secretary, Mrs. Harvey Goode; corresponding secretary, Mrs. Motley Booker; and treasurer, Mrs. Norman Tingle.

VIRGINIA DREWRY MCG. PEARSON (MRS. P. C.)
Publicity Chairman

Doctor's Day Celebrations

The Auxiliary to the Hopewell Medical Society, with Mrs. Clyde Dougherty, president, presented a red carnation to each member of the Hopewell Medical Society on March 30th.

The Newport News Medical Society Auxiliary honored Dr. Edwin Wheeler Buckingham, Jr., at an informal buffet supper at the home of Dr. and Mrs. I. F. Nesbitt. Mrs. Nesbitt is current president of the Auxiliary and Dr. Nesbitt is immediate past president of the medical society. Dr. Buckingham is the third Newport News physician to be so honored by this Auxiliary. He was a medical missionary in China and returned to the States for a six months furlough in 1926. Because of the uprisings in China he was unable to return to the mission field so he located at Messick, moving to Newport News in 1929. The Auxiliary also presented a suction pump to the Patrick Henry Hospital.

Wise County doctors were honored by the Auxiliary with a dinner and bridge party at The Inn in Wise on March 30th. All doctors were presented with a red carnation and table decorations were carried out with the theme of the red carnation.

In honor of Doctor's Day, Governor Almond issued the following proclamation:

"Citizens of Virginia and the United States are fortunate in having available the services of a large number of unselfish physicians who work long hours to care for the ill and maimed, and who are constantly engaged in research to prevent human suffering and disease.

"It is fitting that we recognize their great contribution to the health and general welfare of us all, and I take pleasure in joining with the Woman's Auxiliary to the Southern Medical Association in inviting the citizens of Virginia to observe March 30, 1959, as Doctors' Day in tribute to the guardians of the health of this nation."

Book Announcements . . .

Books received for review are promptly acknowledged in this column. In most cases, review will be published shortly after the acknowledgment of receipt. However, we assume no obligation in return for the courtesy of those sending us books.

* * *

Childbearing Before and After Thirty-Five. Biologic and Social Implications. By ADRIEN BLEYER, M.D., Associate Professor Emeritus of Clinical Pediatrics, Washington University School of Medicine, St. Louis. Introduction by Richard L. Jenkins, M.D., Director, Psychiatric Evaluation Project, U. S. Veterans Administration, Washington, D. C. Commentary by Douglas P. Murphy, Associate Professor of Obstetrics and Gynecology, Gynecologic Hospital Institute, University of Pennsylvania. Vantage Press, New York, N. Y. 1959. 119 pages. Price \$2.95.

* * *

Biosynthesis of Terpenes and Sterols. A Ciba Foundation Symposium. Editors for the Ciba Foundation G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Maeve O'Connor, B. A. Little, Brown and Company, Boston. 1959. xii-811 pages. With 102 illustrations. Cloth. Price \$8.75.

The book is composed of specially prepared papers, along with discussion, presented at a Ciba Foundation Symposium, May 20-22, 1958, under the chairmanship of Sir Robert Robinson. In attendance at the Symposium were only thirty-seven people but they represented seven countries, and they are all authorities in the problems of the isoprenoids and their rearrangement products. Obviously this symposium could not have developed along the lines it did were there no C^{14} to illuminate the paths of the biosynthetic processes.

Nancy L. R. Bucher (Harvard and Massachusetts General Hospital) presented the evidence for the biosynthetic pathway from rat liver acetate according to the scheme $Ac \longrightarrow AcCoA \longrightarrow C_6 \longrightarrow \text{squalene} \longrightarrow \text{cholesterol}$. M. J. Coon and four coworkers (Michigan) discussed the "Enzymic Synthesis of Branched-Chain Acids" according to the sequence, $leucine \longrightarrow isovalerylCoA \longrightarrow isopentenoylCoA \rightleftharpoons hydroxyvalerylCoA$
 $\begin{matrix} OH \\ \rightleftharpoons \\ HOCOCH_2-C-CH_2CO-CoA \\ CH_3 \end{matrix}$ Karl Folkers and

seven coauthors (Merck Sharp and Dohme) described the "Discovery and Elucidation of Mevalonic Acid." Harry Rudney (Western Reserve) presented further evidence for postulating B-methyl-B-hydroxyglutaric acid as an intermediate for the synthesis of isoprenoids. F. Lynen (Max-Planck Institut für Zell-

chemie), quoting from his own results with mevaldic and mevalonic acids, offered "New Aspects of Acetate Incorporation into Isoprenoid Precursors."

Konrad Bloch (Harvard) discussed the mechanism by which mevalonic acid is first reduced at one carboxyl group and with ATP forms a monophosphate on its way to isopentenyl phosphate, which is the intermediate that hexamerizes to squalene, and this in turn is a precursor of cholesterol. J. W. Cornforth and four coauthors (Hammersmith Hospital) presented their evidence favoring the route by which squalene proceeds *via* lanosterol to cholesterol. O. Isler and five coworkers (Hoffmann-La Roche, Basle) discussed the availability of mono-, tri-, and hexaterpenoids as precursors of cholesterol. G. Popják (Hammersmith Hospital) reviewed the role of liver enzyme in the synthesis of cholesterol. E. Kodicek (Cambridge) dealt with the yeast sterols and the preparation of C^{14} -labelled vitamin D₂.

Sune Bergström (Karolinska Institutet) discussed the formation from cholesterol of the bile acids and their metabolism. G. A. D. Haslewood (Guy's Hospital Medical School) suggested the formation of the individual bile salts as a genetic function, and hence in any one species the particular form of bile acid is subject to limited variation.

A. Eschenmoser and four coauthors (Eidgenössischen Technische Hochschule) related the acid-catalyzed cyclization of terpenoids *in vitro* to postulated enzymic reactions *in vivo*. D. Arigoni (Eidgenössischen Technische Hochschule) pointed to the chemical work on the terpenoids and steroids, whether they have their origin in fungi, in plants or in animals, as a good example of the mutual interaction of science in various areas. A. J. Birch and H. Smith (Manchester) described the synthesis of terpenoids by fungi, and E. C. Grob (Berne) discussed the synthesis of carotenes. The carotenogenic systems are discussed by T. W. Goodwin (Liverpool), along with a comparison of these systems as incorporating $C^{14}O_2$, acetate, and mevalonate.

Sir Robert Robinson said of this symposium, "I feel that the results—will be quoted for many years to come and be regarded as a landmark in the progress of this subject." Certain it is that the respective authors are well qualified to speak on their assigned topics.

WALTER H. HARTUNG.

Current Currents

SPECIAL REPORT ON FOUR IMPORTANT ACTIONS OF THE HOUSE OF DELEGATES OF THE AMA

COMMISSION ON MEDICAL CARE PLANS: Three of the Commission's recommendations, relating to miscellaneous and unclassified plans, were reworded to read as follows:

B-4. "In an effort to decrease, or at least to prevent an increase, in the over-all cost of health care, study should be given to the removal of the requirement of hospital admission as the only condition under which payment of certain benefits will be made."

B-6. "Medical care plans should be encouraged to increase their efforts to provide health education and information concerning the coverage of their subscribers."

B-16. "The American Medical Association believes that free choice of physician is the right of every individual and one which he should be free to exercise as he chooses. Each individual should be accorded the privilege to select and change his physician at will or to select his preferred system of medical care and the American Medical Association vigorously supports the right of the individual to choose between these alternatives."

The Board of Trustees was requested to stress the "far-reaching significance" of Recommendation A-7, which states "'Free choice of physician' is an important factor in the provision of good medical care. In order that the principle of 'free choice of physician' be maintained and be fully implemented, the medical profession should discharge more vigorously its self-imposed responsibility for assuring the competency of physicians' services and their provision at a cost which people can afford."

SOCIAL SECURITY: Five resolutions concerning compulsory Social Security coverage for self-employed physicians were considered and four were rejected. The one which was adopted reaffirmed opposition for the compulsory inclusion of physicians. In taking such action, the House expressed concern over the possible effects that a change of policy might have on the Association's entire legislative program, particularly with respect to the Forand Bill.

Also adopted was a Reference Committee suggestion that physicians be informed of the economic, social and moral advantages of economic security obtained within the framework of our free enterprise system rather than through the mechanisms of governmental Social Security.

PREPARATION FOR GENERAL PRACTICE: The House approved and commended the final report of the Committee on Preparation for General Practice, which proposes a new two-year internship program for medical school graduates planning to become family physicians. The suggested program would include a basic minimum of 18 months hospital training in the diagnostic, therapeutic, psychiatric, preventive and rehabilitative aspects of medicine and pediatrics in a very broad sense, including care of the newborn. A physician then could elect to spend the remaining six months for additional training in other segments of the program.

MEDICINE AND OSTEOPATHY: The following policy statement was adopted with reference to interprofessional relations: "(A) All voluntary professional associations between doctors of medicine and those who practice a system of healing not based on scientific principles are unethical. (B) Enactment of medical practice acts requiring all who practice as physicians and surgeons to meet the same qualifications, take the same examinations and graduate from schools approved by the same agency should be encouraged by the constituent associations. (C) It shall not be considered contrary to the Principles of Medical Ethics for doctors of medicine to teach students in an osteopathic college which is in the process of being converted into an approved medical school under the supervision of the A.M.A. Council on Medical Education and Hospitals. (D) A liaison committee be appointed by the Board of Trustees of the American Medical Association to meet with representatives of the American Osteopathic Association, if mutually agreeable, to consider problems of common concern including inter-professional relationships on a national level."

MEMBERS OF THE SOCIETY are urged to read the report on Principles and Policies reprinted in this issue. Particular attention is called to the two recommendations which will very probably be considered again by the House of Delegates when it meets in October. All component societies have been requested to review these recommendations and make their thoughts known to their respective delegates.

The Committee on Principles and Policies also recommends that all physicians read page 118 of the May 23, 1959, issue of the Journal of the American Medical Association.

Cancer of the Breast—What Next?

THE PRACTICE OF SURGERY becomes more involved and confusing each year.

A case in question is the treatment of carcinoma of the breast. A few years ago, when life was simpler, the majority of patients with mammary carcinoma received a radical mastectomy and if metastases were present in the axillary lymph nodes, the surgery was followed by deep x-ray therapy. Approximately a third of these patients remained without evidence of recurrence during the initial five year period and a large number of this group showed no further evidence of tumor. If the tumor recurred, further x-ray might be given, depending upon the location, and a cordotomy was sometimes done to control pain.

Now all this has changed. The surgery carried out on these patients today may vary from a simple mastectomy to the traditional radical procedure plus a block resection of the medial chest wall anteriorly with excision of the internal mammary lymph nodes. Some surgeons do not attempt to remove all of these sternal glands but content themselves with excising the more suspicious nodes and base the remainder of the operation upon the presence or absence of tumor in this tissue. A few surgeons have returned to the original Halsted operation in which the supraclavicular lymph nodes are removed en bloc with the involved breast. Occasionally the inner end of the clavicle is resected to facilitate these procedures. Some surgeons now advocate a simple mastectomy on the uninvolved side in order to prevent the possible subsequent appearance of tumor in this breast.

If the patient with a carcinoma of the breast is premenopausal, many surgeons do an immediate prophylactic bilateral oophorectomy. Others carry out this procedure only when axillary metastases are present. A third group postpones oophorectomy until there is evidence of recurrence. In any event the unpleasant effects of an artificially induced menopause result.

Additional efforts to alter the hormonal balance which permitted the original tumor to develop may be made by giving androgens or estrogens or steroids. If these means fail and a recurrence becomes manifest more drastic surgery may be resorted to in the form of a bilateral adrenalectomy or hypophysectomy. Swabbing out the pituitary fossa with Zinker's fluid is said to increase the efficacy of the latter operation. Considerable difference of opinion exists as to which procedure should be carried out. In

either case the metabolic upset is severe and substitution therapy is required to offset the undesirable by-products of the operation.

Chemotherapeutic agents have been developed during the past few years which may have temporarily beneficial effects on recurrent tumors. Thio-TEPA and nitrogen mustard have been helpful but the deleterious side effects that frequently result in the blood forming organs have limited their usefulness. The recently introduced isolation perfusion technic has permitted a greater concentration of nitrogen or phenylamine mustard to be applied to the tumor area than when these agents are given systemically but the technical difficulties in adapting this method to the breast are considerable.

An occasional isolated metastasis in liver or lung has been resected. Pleural metastases with resulting effusion have responded favorably to injections of Thio-TEPA or radioactive gold into the pleural space. Pain arising from a bony metastasis still falls into the province of the neurosurgeon, who now frequently carries out a prefrontal lobotomy, which controls the pain and also has a beneficial physiological effect on patients in the terminal stage of carcinoma.

This review is by no means complete but it gives a fair idea of the variety of operative procedures currently in vogue and the various chemical and hormonal agents used in the treatment of breast cancer. The physician or surgeon who treats a recurrent carcinoma now has the responsibility of choosing the appropriate agent from this wide choice.

A discouraging aspect of this problem is that while judicious use of the above measures may prolong life, which in itself is not always a blessing, the hormonal and chemotherapeutic agents are rarely, if ever, curative and the overall survival rate has not been materially affected by their use. The age of the patient, the nature of the tumor, the duration of the disease, and the type and degree of the initial surgery determine the ultimate outcome. The first chance to cure is the only chance to cure and if this effort proves unsuccessful the best that can be hoped for thereafter is a delaying and rearguard action.

The limits of surgery on the other hand have been extended to the ultimate and any material improvement over our present recovery rate must come from a new and non-surgical approach. What form this may take remains to be seen, but that day cannot come too soon for the present status of therapy in carcinoma of the breast is one of uncertainty and frustration.

HARRY J. WARTHEN, M.D.

Society Activities

Virginia Academy of General Practice.

At the annual meeting of the Academy, held in Richmond, May 7-10, Dr. Fletcher J. Wright, Jr., Petersburg, was installed as President, succeeding Dr. W. Linwood Ball, Richmond. Dr. Boyd H. Payne, Staunton, has been named president-elect; Dr. William H. Hagood, Jr., Clover, vice-president; Dr. Samuel F. Driver, Roanoke, secretary; and Dr. Irwin Rifkin, Richmond, treasurer.

Alexandria Medical Society.

At the meeting of this Society held on May 13th, Dr. Ben C. Jones, Jr., was installed as president, and Dr. F. Preston Titus was named president-elect. Other officers are Dr. James Gilbert, vice president; Dr. Walter J. Brennan, secretary; and Dr. William H. Young, Jr., treasurer. Drs. Eugene R. Grether and Hayne Kendrick were named executive committee members-at-large.

News Notes

New Members.

Since the list published in the June issue, the following new members have been admitted into The Medical Society of Virginia:

Charles E. Hannan, M.D., Arlington
Ursula Klein, M.D., Pulaski
Ansel Lipman, M.D., Portsmouth
Zdenko Lucaric, M.D., Richmond
James Gordon McFaddin, M.D., Bristol, Tenn.
Harold Edwin Muller, M.D., Hampton
Louis J. Read, M.D., Lynchburg
Beverly Lee Reynolds, M.D., Charlottesville
Lawrence Wilkinson, M.D., Martinsville
Nina Bencich Woodside, M.D., Fairfax

Golfing Members

Of the Society should begin tuning up for the annual tournament to be held at the Roanoke Country Club on October 5. In order that the participants may be back at the Hotel Roanoke for the cocktail party and banquet, it is suggested that all foursomes plan to tee off between noon and 2:00 p.m. The Chairman of the Golf Committee will be available

Norfolk County Medical Society.

Dr. W. W. Taylor has succeeded Dr. K. K. Wallace as president of this Society, and Dr. John Franklin has been named president-elect. Dr. Donald Faulkner is vice-president, Dr. William Hotchkiss, treasurer, Dr. M. I. Krischer, recording secretary, Dr. George Elsasser, corresponding secretary, and Dr. R. B. Grinnan, local councillor.

Virginia Surgical Society.

Some 120 members of this Society held their sixth annual meeting in Williamsburg on May 2nd. Dr. Edmund Horgan, Winchester, is president; Dr. Benjamin Rawles, Jr., Richmond, vice-president; Dr. Robert L. Payne, Jr., Norfolk, secretary; and Dr. William R. Hill, Richmond, treasurer. Council members include Dr. Guy W. Horsley, Richmond, chairman, Dr. Randolph H. Hoge, Richmond, Dr. J. M. Emmett, Clifton Forge, and Dr. C. Bruce Morton, II, Charlottesville.

at the Clubhouse for any questions, to help make up foursomes and to explain the scoring system. Although a limited number of caddies will be on hand, members may wish to use either electric or hand carts which will be available.

The tournament will consist of 18 holes and prizes will be awarded in classes according to handicap on a medal score basis. The Callaway system will be used in determining handicaps. This means that golfers shooting between 70 and 80 will use their worse hole to determine their handicap; those scoring between 80 and 90 will use their two worse holes; those shooting between 90 and 100 their three worse holes and those in the 100 to 120 class their three and one-half worse holes. The championship trophy will be awarded to the physician having the lowest gross score.

Dr. Carolyn McCue

Has been elected the first woman president of the Richmond Area Heart Association. Dr. Robley D. Bates, Jr., has been named vice president. Among the newly elected members of the Board are Drs.

330400

Owen Gwathmey, H. Page Mauck, Jr., and Gilman R. Tyler.

Virginia-Cornell Automotive Crash Injury Research Study.

Recent design alterations in American cars, engineered for the greater protection of occupants when accidents occur, such as improved door latches, energy absorbing steering wheels, seat belts, and instrument panel padding may be said, in part, to stem from the conscientious work of Virginia doctors, hospitals, and state police cooperating with Automotive Crash Injury Research of Cornell University.

For the past four years The Medical Society of Virginia, the Virginia Department of Public Health, and the Virginia Department of State Police have been conducting in Virginia a research study which has obtained reliable data on the causes of accident injury to occupants of passenger cars. Similar studies are now being conducted simultaneously in 17 other states.

The sponsoring Virginia agencies have agreed to continue this research effort. The revised plan will become effective July 1.

Medical data submitted by physicians treating auto accident victims, matched with information on photographs supplied by State Police investigating accidents, in cooperating states has enabled Cornell to perform statistical studies using the IBM cards onto which analyzed and coded cases from these 17 states have been transferred. Thus, a reduction by as much as 29% in the risk of dangerous through fatal grades of injury has been demonstrated in post-1955 car models involved in accidents in the sampling areas of the Interstate Automotive Crash Injury Research program.

Dr. John A. Sims

Has been named president of the newly formed Alexandria-Arlington Tuberculosis and Health Association.

Dr. Warren Gregory,

Winchester, has been elected as chairman of the Northwestern Guidance Center. Dr. H. P. Maccubbin is secretary-treasurer. The Center offers guidance and consultative services primarily in psychological problems and has been in operation for four years.

"Senior Day."

Senior medical students of the University of Virginia were recently feted at a special "Senior Day"

program in Charlottesville's Monticello Hotel. The program was presented by The Medical Society of Virginia and was similar to that offered last year for seniors at the Medical College of Virginia.

Dr. W. Linwood Ball, Vice-President and Member of the Board of Trustees of the American Medical Association, discussed the many problems facing the medical profession today, and told of the untiring efforts of the AMA and other medical organizations to find the necessary solutions.

The responsibilities of the physician to his patients and community were covered by Dr. Harry C. Bates, Jr., immediate Past-President of The Medical Society of Virginia, in an inspiring talk following a dinner for students and their wives.

The International College of Surgeons

Will hold its fourth around-the-world postgraduate refresher clinic tour in the fall. Departure will be by plane from San Francisco, October 10th, and specially arranged meetings have been slated for Tokyo, Hong Kong, Bangkok, Tel Aviv, Istanbul, and Athens. Sightseeing trips have been arranged for these and other countries, including Thailand, India, Ceylon, Egypt, Lebanon, and Jordan. Arrival in New York will be about December 1st.

Accommodations are limited and further information may be obtained from the Secretariat, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10.

Dr. Leon W. Powell, Jr.,

Danville, has been named chief pathologist at the Memorial Hospital, succeeding the late Dr. John W. Hooker. He will also serve as director of the hospital's laboratory.

Urology Award.

The American Urological Association offers an annual award of \$1000 (first prize of \$500, second prize \$300 and third prize \$200) for essays on the result of some clinical or laboratory research in urology. Competition is limited to Urologists who have been graduated not more than ten years, and to hospital interns and residents doing research work in urology.

For full particulars, write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before December 1, 1959.

Dr. Jacob J. Hladys,

Richmond, served as Institute Leader at the Virginia Conference of Social Work, held in Roanoke April 28-May 1. He was assisted by Edward L. Flemming, Ed.D. and Ph.D., Clinical Psychologist and Assistant Director of the Bureau of Maternal and Child Health, Florida State Board of Health, and Paul W. Keve, Director of the Department of Court Services, Hennepin County District and Juvenile Courts, Minneapolis.

Topics discussed were An Understanding of the Dynamics of Delinquent Behavior and Techniques in Rapport Building, Techniques in the Maintenance of a Relationship with the Emotionally Handicapped Child, and Techniques of Breaking off the Relationship when the Task is Completed.

The institute was well attended and received favorable comment in the local newspapers.

Doctors' Nurses Organize.

The membership of the old American Registry of Doctors' Nurses has been assumed by the American Association of Doctors' Nurses, a new nonprofit Association which maintains headquarters in the American Building, Washington, D. C. The Association has as its purpose to promote the welfare of the members, to elevate the standards and ethics of the profession, and to enroll Doctors' nurses in order that they may advance their status as proven members of that profession. Membership requires that the nurse be able to qualify as an experienced Doctors' Nurse. Her application stating her qualifications must be signed by a Doctor of Medicine.

Dr. James M. Suter,

Abingdon, is the new president of the Virginia Public Health Association. He is southwest regional director of local health services for the State Department of Health.

The American Institute of Ultrasonics in Medicine

Will hold their annual meeting on September 2nd at the Leamington Hotel, Minneapolis, Minnesota. For further information, contact John H. Aldes, M.D., Secretary 4833 Fountain Avenue, Los Angeles 29, California.

The International College of Surgeons,

North American Federation, will meet at the Palmer House, Chicago, September 13-17. Surgical specialties to be represented are: colo-proctologic, neurologic, obstetric and gynecologic, ophthalmologic, otorhinolaryngologic, orthopedic, plastic and reconstruction, trauma and rehabilitation, and urologic. There also will be surgical motion pictures, reports on advances in military medicine, and a surgical nurses' program.

Surgeons desiring to present papers should write to Dr. Peter A. Rosi, International College of Surgeons, 1516 Lake Shore Drive, Chicago 10. For hotel reservations, write to the reservation secretary, care of the College.

Wanted.

One male psychiatrist, under 50 years, Diplomate or Board eligible, to direct privately operated outpatient clinic in Charleston, West Virginia. Salary: \$20-\$25,000 per annum. Write Box 625, care the Virginia Medical Monthly, 4205 Dover Road, Richmond 21, Virginia. (*Adv.*)

Office Available.

Large office on West Avenue, Newport News, recently vacated by retiring obstetrician. Write C. D. West & Company, Box 95, Newport News, Virginia. (*Adv.*)

Dr. Ernest Clay Shull,

Prominent physician of Herndon, died May 7th, at the age of sixty-five. He was a graduate of the Medical College of Virginia in 1924 and had practiced in Herndon for thirty-two years. Dr. Shull served in the Army Medical Corps in World War I. He was founder and first president of the Herndon Rotary Club, a past president of the Herndon PTA, and served on the school board for over twenty years, and a Mason. Dr. Shull was instrumental in founding and serving in the public health clinic in Herndon. He had been a member of The Medical Society of Virginia for twenty-eight years.

Dr. Shull is survived by his wife, a son, Dr. Owen C. Shull, and three daughters.

Dr. Edwin Wheeler Buckingham, Jr.,

Prominent physician of Newport News, died June 6th. He was a native of Lynchburg and sixty-seven years of age. Dr. Buckingham graduated in medicine from the University of Virginia in 1918. He then served in World War I, first being assigned to

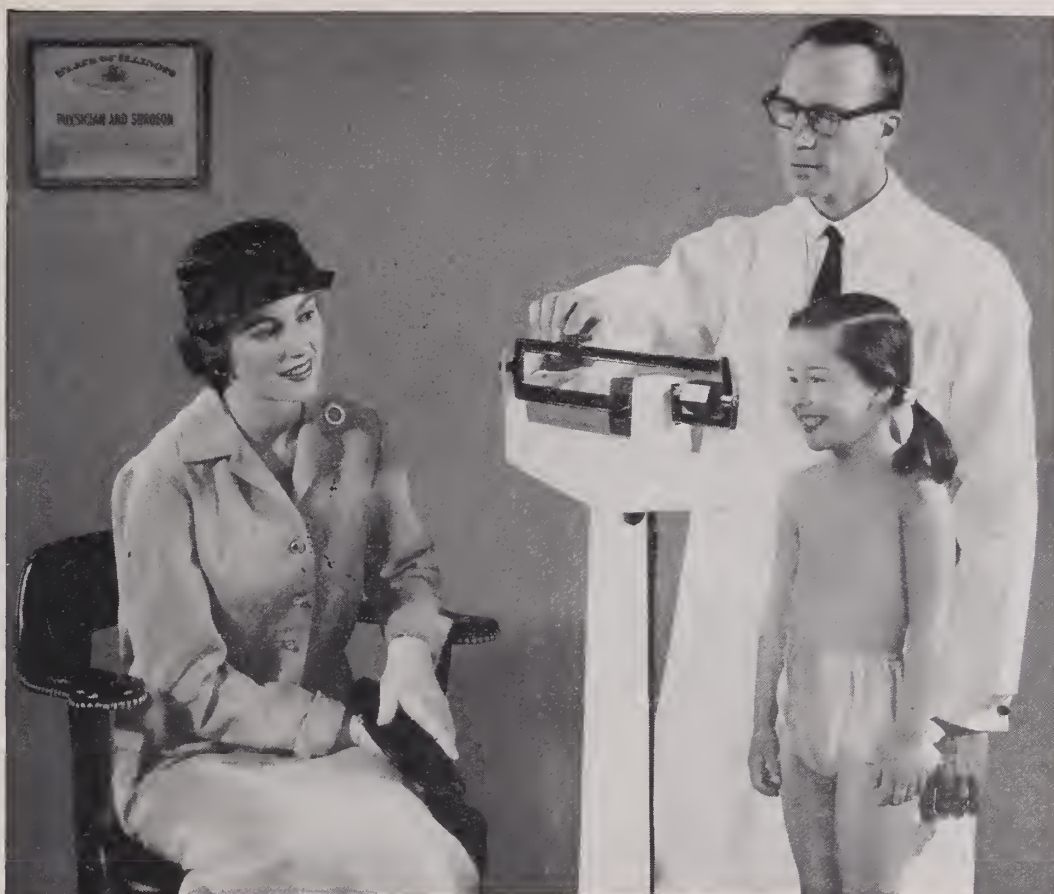
the Portsmouth Naval Hospital, then a troop transport, and finally to Gouvernier Hospital, New York, for intern war duty. Dr. Buckingham had practiced in Newport News for the past thirty-three years. Two months ago he was named Newport News Doctor of the Year. He had been a member of The Medical Society of Virginia for twenty-one years.

Dr. Buckingham is survived by two sons and two daughters.

Dr. Thomas Eldridge Stanley,

Richmond, died June 3rd of heart disease. He was fifty years of age and a graduate of the Medical College of Virginia in 1932. Dr. Stanley had been a staff member of St. Elizabeth's Hospital since 1951. Prior to this time, he had practiced for thirteen years in Hanover, Louisa, Goochland and Henrico counties, and was on the staff of the Newton D. Baker Veterans Administration Hospital in Martinsburg, West Virginia. Dr. Stanley was a Mason and had been a member of The Medical Society of Virginia since 1935.

His wife, a daughter and two sons survive him.



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*Brown, S. S.; Libo, H. W., and Nussbaum, A. H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.



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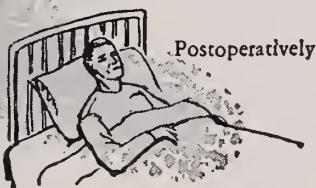
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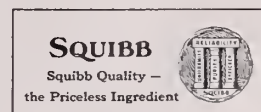
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References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

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Pyrilamine Maleate	25-50 mg.	37.5 mg.	12.50 mg.	33.3%
Chlorpheniramine Maleate	2-4 mg.	3 mg.	1.25 mg.	41.7%
Percentage of Median Combined Dose of the three contained antihistamines in 20.0 mg. Tristamine				100.0%



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Liquid, 10 mg./5 cc., Bottles of one pint and one gallon.

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Tristamine Capsules 60 Mg. (Sustained Release) Adults, One capsule every twelve hours, morning and night or at breakfast and supper. In unusually resistant cases it may be desirable to give one capsule every eight hours.

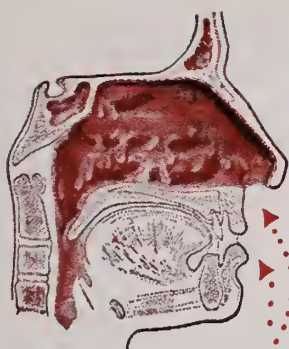
Tristamine Liquid (10 mg./5cc.)

Adults, two teaspoonfuls four times daily; **Children 12 to 16,** one to two teaspoonfuls three to 4 times daily; **Children 6 to 12,** One teaspoonful; **Children under six,** one-fourth to one-half teaspoonful.



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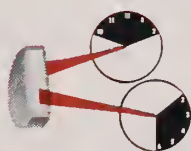
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References: 1. Sheldon, J. M.: Postgrad. Med. **14**:465 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy **19**:19 (Jan.) 1948. 4. Goodman, L. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: E.E.N.T. Monthly **37**:460 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. **112**:259 (Dec.) 1957. 7. Farmer, D. F.: Clin. Med. **5**:1183 (Sept.) 1958.

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References: 1. Charles, C. M.: *Geriatrics* 2:110 (March) 1956. 2. Menger, H. C.: *Clin. Med.* 4:313 (March) 1957. 3. Shuster, B. H.: *M. Clin. North America* 40:1787 (Nov.) 1956.



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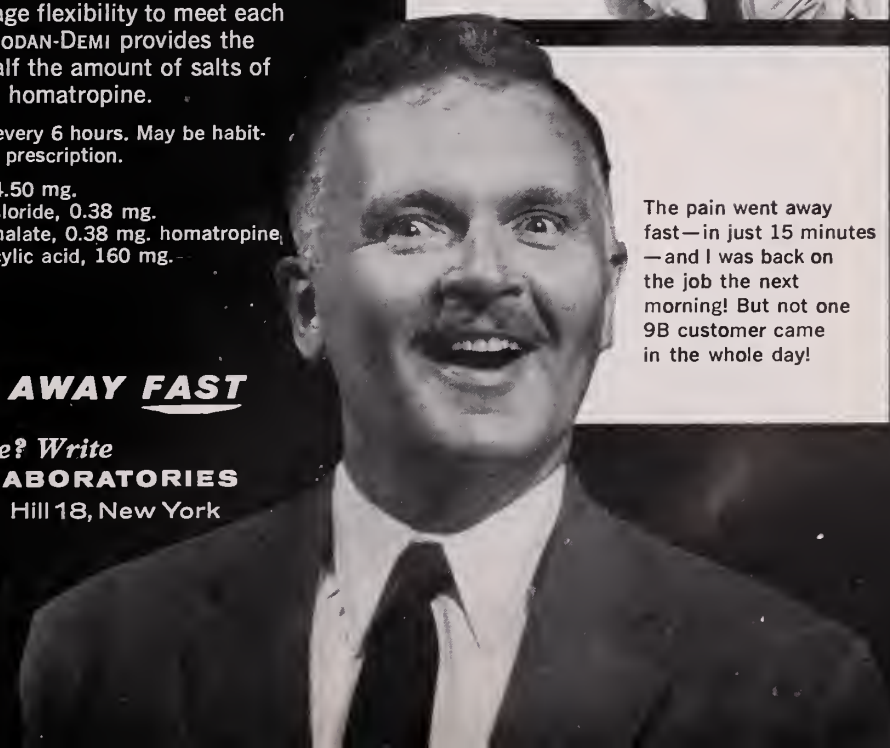
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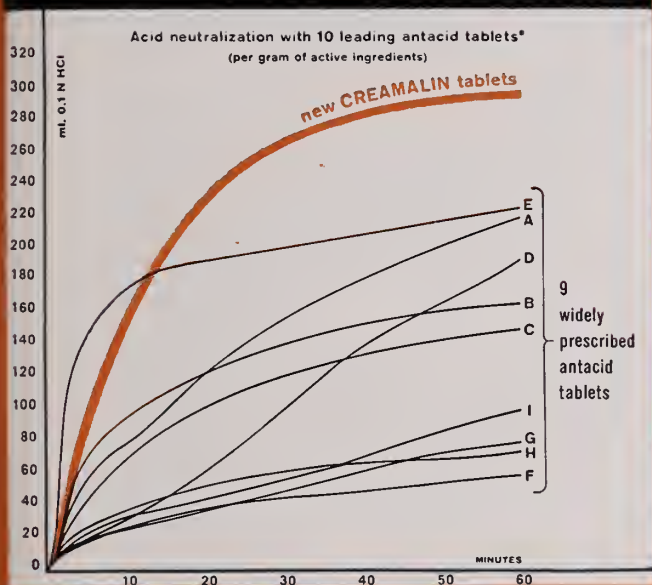
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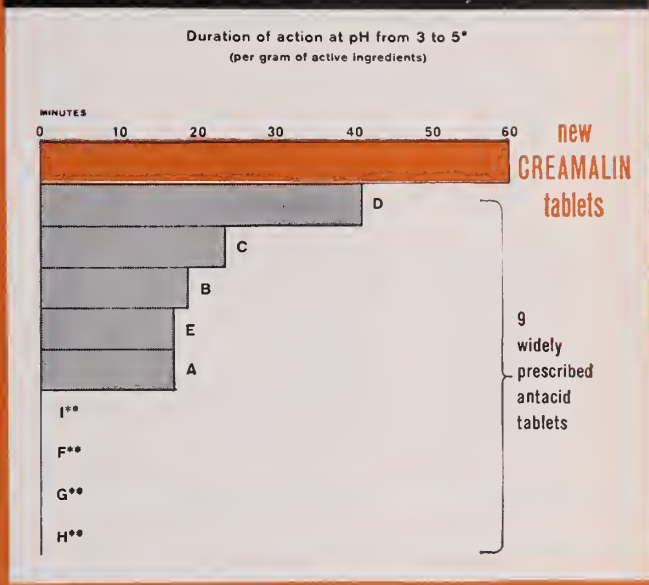
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(1) Rubin, A., and Babbott, D.: J.A.M.A. 168:498, (Oct. 4) 1958. (2) Kinsey, A. C.; Pomeroy, W. B., and Martin, C. E.: Sexual Behavior in the Human Male, Philadelphia, W. B. Saunders Company, 1948.

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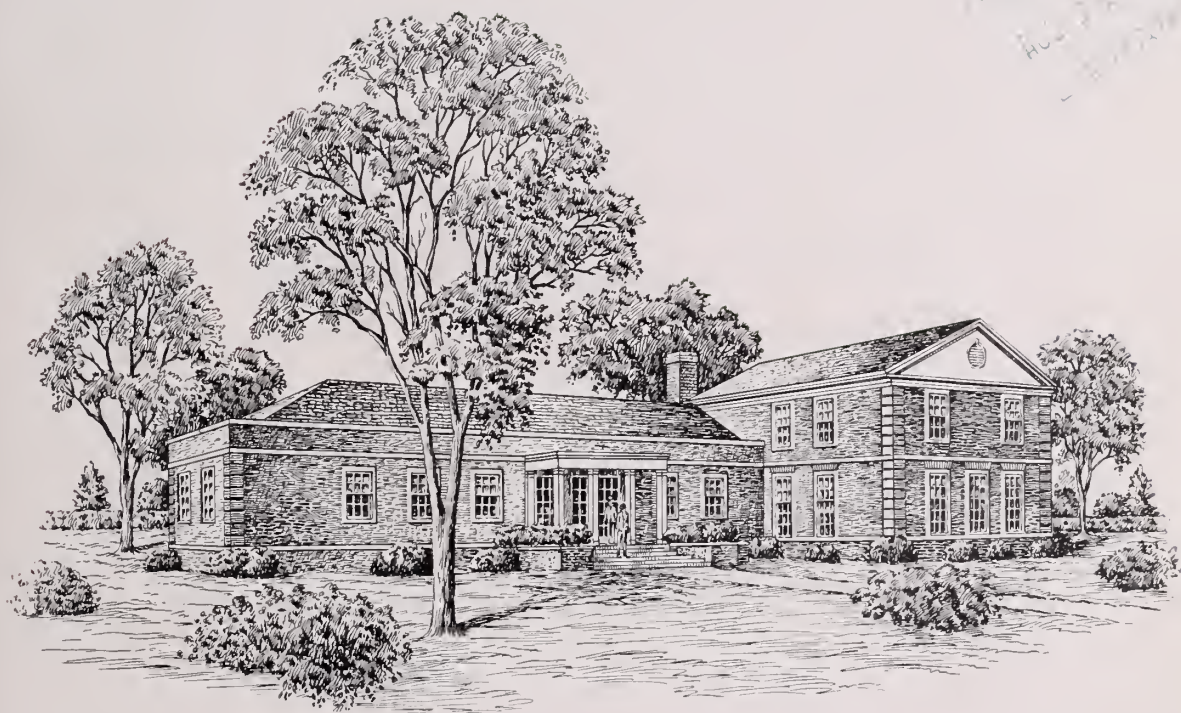
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bibliography: (1) Carter, S. M.: *M. Clin. North America*: 315 (March) 1953. (2) Chao, D. H.: *Ibid.*, p. 465. (3) Gilman, L. S., & Gilman, A.: *The Pharmacological Basis of Therapeutics*, ed. 2, New York, MacMillan Company, 1955, p. 187. (4) Davidson, D. T., Jr., in Conn, H. F.: *Current Therapy* 1958, Philadelphia, W. B. Saunders Company, 1958, p. 568. (5) Zimmerman, F. T.: *New York J. Med.* 55:2338, 1955. (6) French, E. G.; Rey-Bellet, J., & Lemaire, W. G.: *New England J. Med.* 258:892 (May 1) 1958.



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1. Boland, E. W., and Headley, N. E.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

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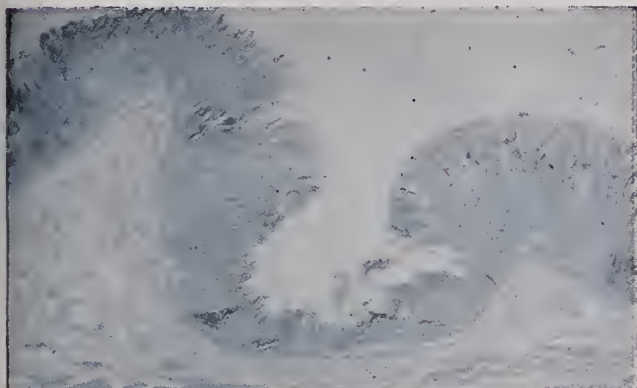
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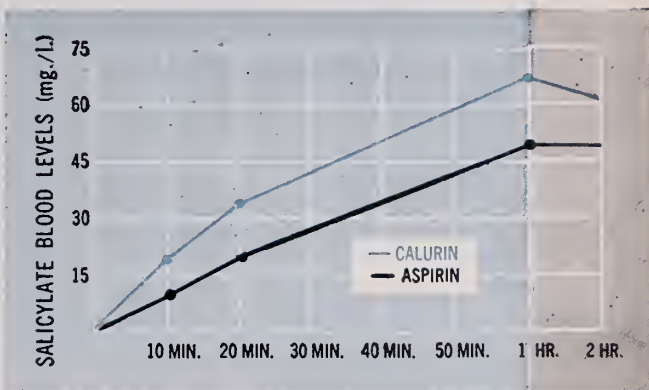
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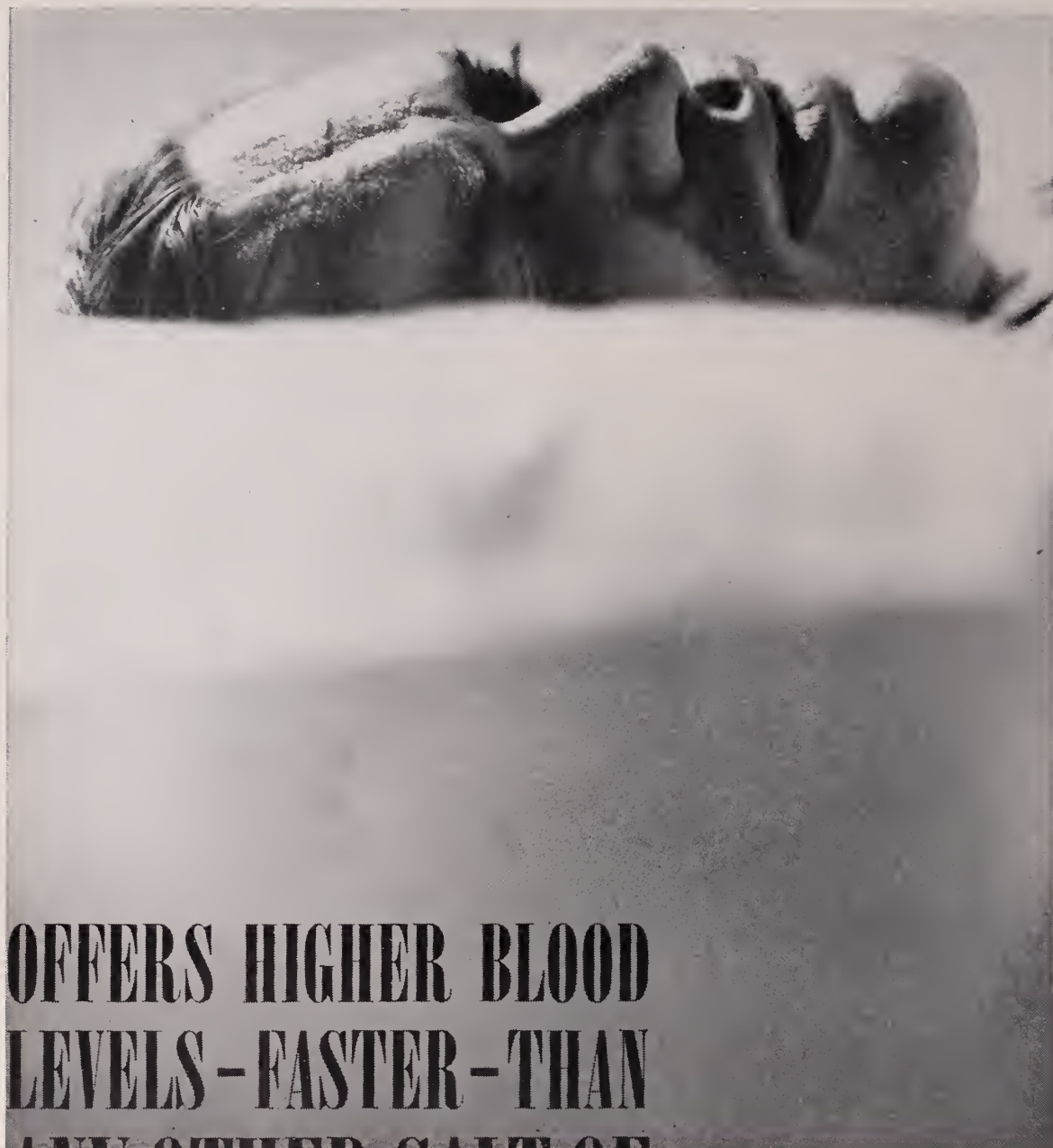
Dosage: Each tablet of Calurin is equivalent to 300 mg. (5 gr.) of acetylsalicylic acid. For relief of pain and fever in adult patients, the usual dose of Calurin is 1 to 3 tablets every 4 hours, as needed; in arthritic states, 2 or 3 tablets 3 or 4 times

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*Editorial: New England J. Med. 260:246 (Jan. 29) 1959

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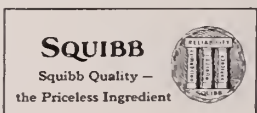
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And Vesprin exhibits an improved therapeutic ratio — enhanced efficacy with a low incidence of side effects; no reported hypotension, extrapyramidal symptoms, blood dyscrasia or jaundice in patients treated for anxiety and tension.^{1,2,3}

dosage: for "round-the-clock" control — 10 mg. to 25 mg., b.i.d.; for "once-a-day" use — 25 mg. once a day, appropriately scheduled, for therapy or prevention. **supply:** Oral Tablets, 10, 25 and 50 mg., press-coated, bottles of 50 and 500; Emulsion (Vesprin Base) — 30 cc. dropper bottles and 120 cc. bottles (10 mg./cc.). **references:** 1. Stone, H.H.: Monographs on Therapy 3:1 (May) 1958. 2. Reeves, J.E. Postgrad. Med. 24:687 (Dec.) 1958. 3. Burstein, F.: Clinical Research Notes 2:3, 1959. 4. Kris, E.: Clinical Research Notes 2:1, 1959. ¹Vesprin[®] is a Squibb Trademark.

Vesprin — the tranquilizer that fills a need in every major area of medical practice



Triple antihistamines combined to provide increased effectiveness with diminished side-effects!

TRISTAMINE

TRISTAMINE is a unique combination of three antihistaminic agents, designed to afford high-level antihistaminic activity with a minimum of undesirable side-effects. The enhanced effectiveness achieved by the combination affords welcome relief from the discomfort of hay fever, seasonal and non-seasonal rhinitis, allergic dermatitis, urticaria and other conditions for which the contained antihistamines are clinically useful, while sedation and other side-effects commonly encountered with antihistamine therapy are minimized by the use of lower doses of the individual drugs.

Tristamine is supplied in two convenient dosage forms—Tristamine Sustained Release Capsules, affording relief for periods up to ten hours, and Tristamine Elixir, a sugar free sorbitol type 'syrup' that will appeal to children and adults who prefer liquid medication.

CAUTION:

Federal law prohibits dispensing without prescription.



PACKAGING:

Sustained Release Capsules, 60 mg., Bottles of 30, 100 and 1000.

Liquid, 10 mg./5 cc., Bottles of one pint and one gallon.

Contained Antihistamine	Dosage Range	Median Dose	Amount in 20.0 mg. of Tristamine	Percentage of Individual Median Dose
Phenyltoloxamine Citrate	25 mg.	25 mg.	6.25 mg.	25.0%
Pyrilamine Maleate	25-50 mg.	37.5 mg.	12.50 mg.	33.3%
Chlorpheniramine Maleate	2-4 mg.	3 mg.	1.25 mg.	41.7%
Percentage of Median Combined Dose of the three contained antihistamines in 20.0 mg. Tristamine				100.0%

DOSAGE:

Tristamine Capsules 60 Mg. (Sustained Release) Adults, One capsule every twelve hours, morning and night or at breakfast and supper. In unusually resistant cases it may be desirable to give one capsule every eight hours.

Tristamine Liquid (10 mg./5cc.)

Adults, two teaspoonfuls four times daily; Children 12 to 16, one to two teaspoonfuls three to 4 times daily; Children 6 to 12, One teaspoonful; Children under six, one-fourth to one-half teaspoonful.



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(brand of hydroxyzine)

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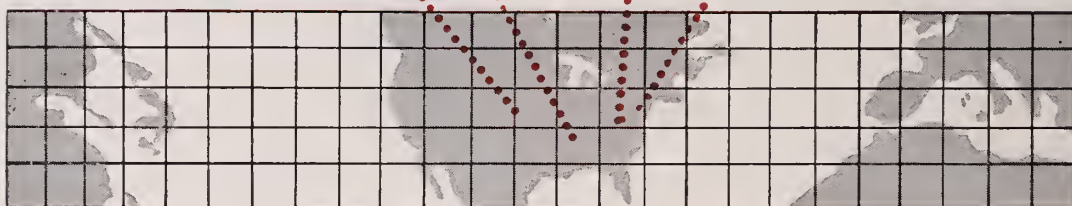
"especially well suited for ambulatory patients who must work, drive a car, or operate machinery."³

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"ATARAX appeared to reduce anxiety and restlessness, improve sleep patterns and make the child more amenable to the development of new patterns of behavior...."²

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ATARAX is "effective in controlling tension and anxiety.... Its safety makes it an excellent drug for out-patient use in office practice."⁴



INVESTIGATORS AGREE ON OPTIMAL ATARAX DOSAGES

For childhood behavior disorders	10 mg. tablets Syrup	3-6 years, one tablet t.i.d. over 6 years, two tablets t.i.d. 3-6 years, one tsp. t.i.d. over 6 years, two tsp. t.i.d.
For adult tension and anxiety	25 mg. tablets Syrup	one tablet q.i.d. one tbsp. q.i.d.
For severe emotional disturbances	100 mg. tablets	one tablet t.i.d.
For adult psychiatric and emotional emergencies	Parenteral Solution	25-50 mg. (1-2 cc.) intramuscularly, 3-4 times daily, at 4-hour intervals. Dosage for children under 12 not established.

• **Supplied:** Tablets, bottles of 100. Syrup, pint bottles. • Parenteral Solution, 10 cc. multiple-dose vials.

• **References:** 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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ACETYL PEDIATRIC SUSPENSION

N¹ Acetyl Sulfamethoxy-pyridazine

Recommended dosage: First-day dose is 1 teaspoonful (250 mg.) for each 20 lbs. body weight up to 80 lbs. For each day thereafter, ½ teaspoonful for each 20 lbs. For 80 lbs. and over, use adult dosage of 4 teaspoonfuls (1.0 Gm.) initially, and 2 teaspoonfuls (0.5 Gm.) daily thereafter. Administer after a meal.

Supplied: Each teaspoonful (5 cc.) contains 250 mg. of sulfamethoxy-pyridazine activity. Bottles of 4 and 16 fl. oz.

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No dangerous side effects.

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Supply: Capsules • Elixir



see
Page 666

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to relieve both nasal
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and chest discomfort
↓

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Many hay fever patients also experience chest discomfort. For these patients, new ISOCLOR provides relief along the entire respiratory tract.

COMBINES the nasal and bronchial decongestant action of d-isoeophedrine with the histamine blocking action of chlorpheniramine.

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COMPOSITION:

	Per tablet	Per 5 ml. syrup
Chlorpheniramine maleate	4 mg.	2 mg.
d-Isoephedrine HCl	25 mg.	12.5 mg.

DOSE: Tablets: One tablet 3 or 4 times daily. Syrup: Children: 3-6 yrs. ½ tsp. t.i.d.; 6-12 yrs. 1 tsp. t.i.d.; Adults: 2 tsp. t.i.d.

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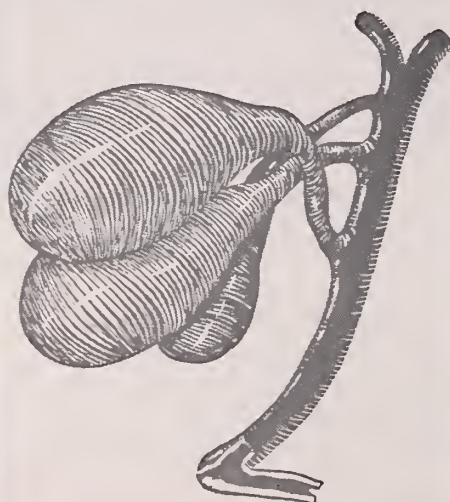
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Source: Skilboe, B.: Am. J. Clin. Path. 30:252, 1958.



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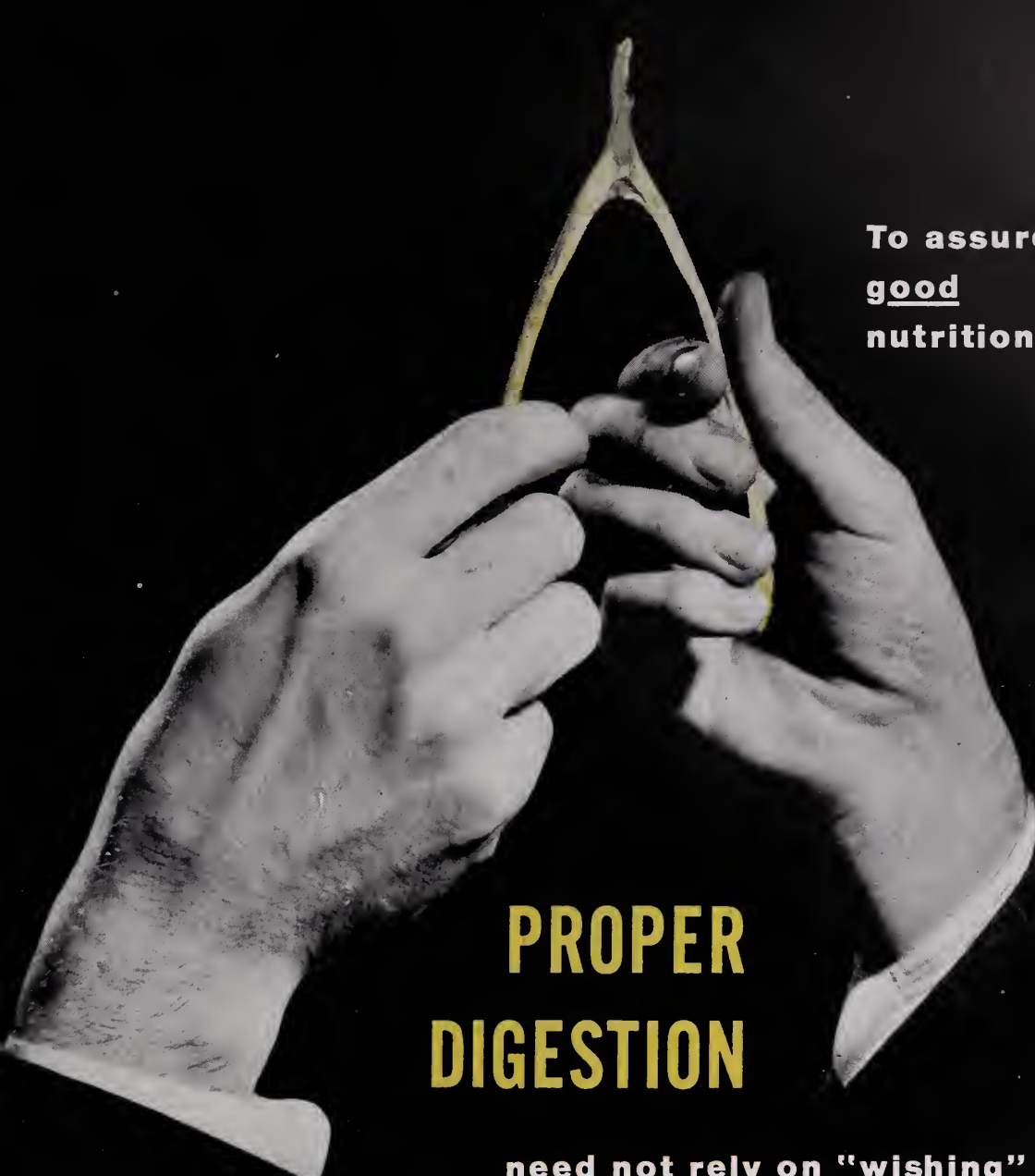
"...DECHOLIN/Belladonna in a dosage of one tablet t.i.d. for a period of two to three months may prove helpful in relieving postoperative symptoms, aiding the digestion, and facilitating elimination."²

- (1) Beckman, H.: *Drugs: Their Nature, Action and Use*, Philadelphia, W. B. Saunders Company, 1958, p. 425.
(2) *Biliary Tract Diseases*, M. Times 85:1081, 1957.

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there's pain and inflammation here... it could be mild or severe, acute or chronic, primary or secondary fibrositis—or even early rheumatoid arthritis

more potent and comprehensive treatment than salicylate alone

- ... assured anti-inflammatory effect of low-dosage corticosteroid¹
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more manageable corticosteroid dosage

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Composition

METICORTEN® (prednisone)	0.75 mg.
Acetylsalicylic acid	325 mg.
Aluminum hydroxide	75 mg.
Ascorbic acid	20 mg.

Packaging: SIGMAGEN Tablets, bottles of 100 and 1000.

References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

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Acute conditions: Two or three tablets four times daily. After desired response is obtained, gradually reduce daily dosage and then discontinue.

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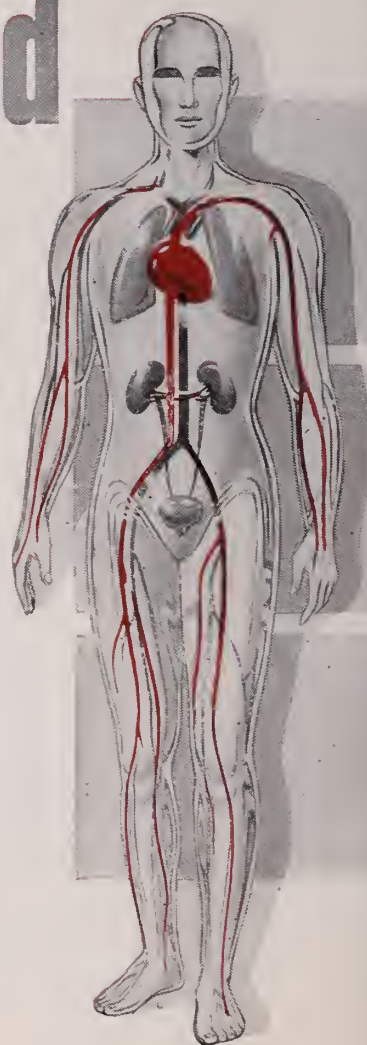


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Initiate therapy with HYDRODIURIL: one 25 mg. tablet or one 50 mg. tablet once or twice a day. HYDRODIURIL by itself often causes an adequate drop in blood pressure over a period of two to three weeks. This may be all the therapy some patients require.

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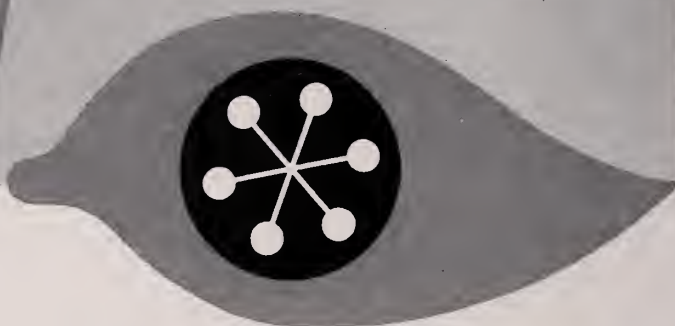
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in premenstrual tension
only neo Bromth[®]
treats the whole syndrome



It was the introduction of neo Bromth several years ago that created such widespread interest in the premenstrual syndrome—because of neo Bromth's specific ability to prevent the development of the condition in the first place.

The action of neo Bromth is not limited merely to control of abnormal water retention, or of nervousness, or of pain—or any other single or several of the multiple manifestations characteristic of premenstrual tension. neo Bromth effectively controls the whole syndrome.

neo Bromth is also completely free from the undesirable side effects associated with such limited-action therapy as ammonium chloride, hormones, tranquilizers and potent diuretics. neo Bromth has continued to prove to be the safest—as well as the most effective—treatment for premenstrual tension.

Each 80 mg. tablet contains 50 mg. Pamabrom, and 30 mg. pyrilamine maleate. Dosage is 2 tablets twice daily (morning and night) beginning 5 to 7 days before menstruation. Discontinue when the flow starts.



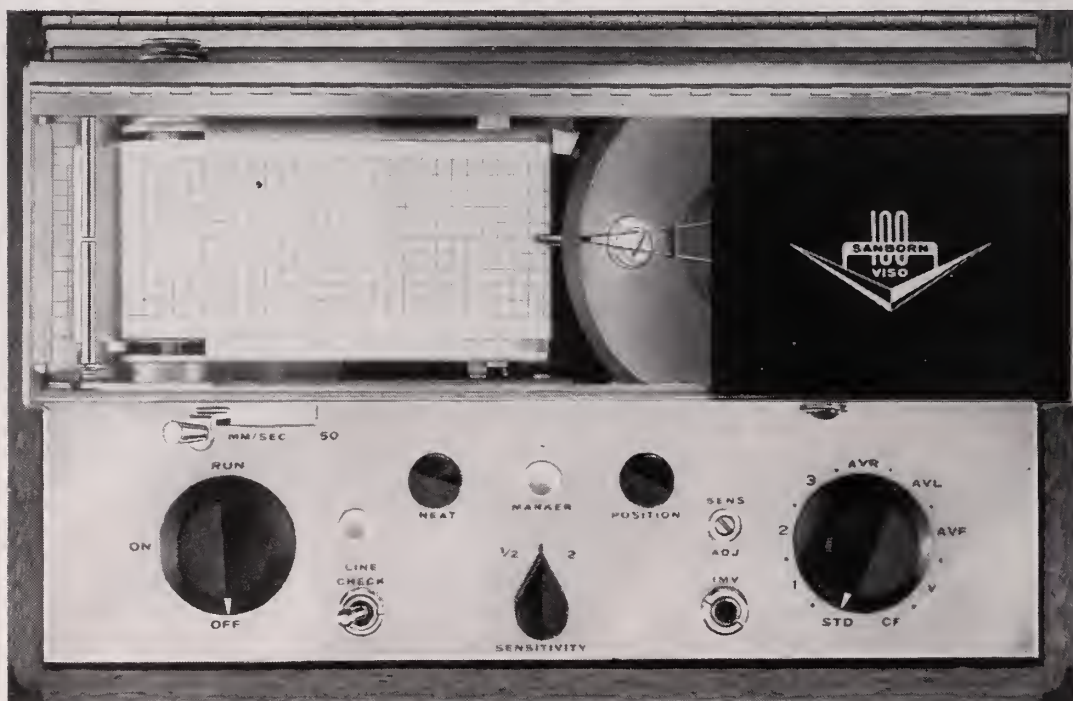
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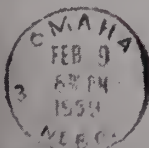
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Also supplied as suspension and pediatric Pulvules.

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VIRGINIA MEDICAL MONTHLY

Guest Editorial

A State Cancer Registry

NEVER IN THE PAST have efforts of cancer control been comparable to those of today. In a rapidly accelerating program, more and more is being done to establish a cause, or the causes, of cancer; to find preventions or cures and to improve methods of therapy presently available. When, how, and in what way the path will be cleared, is now speculation. That the answer will be found is beyond doubt. What influence these discoveries will have on the practice of medicine will probably be in proportion to the significance of the problem. Certainly the answer to some problems will have a profound influence.

Innumerable are the ways by which such scientific discoveries may be tested or applied by the medical profession. Therefore, the profession should be so organized as to be able to utilize its potentials and to adapt its facilities in the most beneficial manner. To accomplish this, established systems of recording statistical data must be available.

The Cancer Committee of The Medical Society of Virginia during the past year has been working to establish a state-wide Cancer Registry. This effort is not new in this area. Since 1947 the State Health Department has maintained a registry and now has a total of over 55,000 case reports voluntarily furnished by a small number of hospitals. Now it is the purpose of the Committee to expand the program, to encourage all hospitals in the State to participate, and, by participating, to report all their cases of malignancy and follow-up examinations when they are available.

Central cancer registries vary in size and are not necessarily state-wide in scope. A central registry may include material from a small segment of the State—several counties—or may only represent material from several hospitals in one metropolitan area.

The Committee, after due consideration, believes a Central Registry for the entire State of Virginia would be the most practical. Irrespective of the area included by the registry, or the size as measured by the number of cases, or the number of hospitals reporting, the value of the registry is in direct proportion to the quality of the reports received from the participating units, i.e., the local hospitals.

Dr. Aubrey Schneider, a representative of the American Cancer Society, and an authority on this subject, met with the Committee and discussed various aspects of the proposed program. His emphasis on the local reporting unit has made the Com-

mittee more cognizant of the importance of concentrating efforts to establish a sound foundation at this level.

For the local hospital satisfactorily to participate in the program, and to furnish adequate reports, it must maintain a hospital cancer registry. At present, cancer registries exist in this area. These vary greatly in efficiency. Too often the registry is entirely the responsibility of a secretary or a record librarian who must make decisions on matters that can only adequately be decided by one trained in cancer work. Under such control, inaccuracies are frequent and much effort lost. It, therefore, becomes essential in a worthwhile program to have a group of physicians responsible for the local registry. It is this group of physicians, responsible to the medical staff of the hospital, that will determine the success of the local and central registry. Because of the widespread source of information required to keep satisfactory records of malignant cases, this group should include a representative of all major specialties or hospital departments. This would be the Hospital Cancer Committee.

The function of the Cancer Committee is to be responsible for the entire cancer control program in the hospital. It shall be responsible for not only the registry but the tumor board, the tumor clinic staff, and the cytology program when such exists. It must have a satisfactory working relationship with the Tissue Committee, and the Record Room Committee. As the Committee responsible for the cancer registry, it must determine those cases to be included in the registry, i.e., whether all cases diagnosed as malignant or only those confirmed by microscopic study. It must determine whether it is necessary to have a hospital rule requiring all cases to be reported to the registry, and must make rules for reporting follow-up examinations. Systems for reports to be sent to the registry must be developed, and adequate help, material, and space must be secured. The Committee at intervals must report to the medical staff on the results obtained by the registry.

Efforts toward reducing cancer morbidity and mortality have not been in vain. Evidence is available, although not too encouraging, to show that there is progress in combating the disease. It is only by a comparative review of the past that we can wisely and scientifically advance and be prepared to deal with the future. A State Cancer Registry will be the means by which this can be accomplished. It will be not only the means of evaluating our cancer control efforts but will be an expression of our efforts.

All general hospitals in the state are asked to participate voluntarily in the program by establishing a Cancer Committee, a Cancer Registry, and by furnishing reports to the Central Registry.

The Bureau of Cancer Control of the State Health Department, Virginia Division of the American Cancer Society, and the Cancer Committee of The Medical Society of Virginia are supporting this program and will render aid whenever possible.

JOHN R. KIGHT, M.D.
Chairman, Cancer Committee
The Medical Society of Virginia

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Mephenesin Carbamate in the Treatment of Multiple Sclerosis

JOHN S. THIEMEYER, Jr., M.D.
Norfolk, Virginia

MULTIPLE SCLEROSIS has been reported to be the commonest organic nervous disease.¹ Theories as to its etiology are almost as varying as the central nervous system lesions characteristic of the disease. These lesions occur as disseminated patches of demyelination in the brain and spinal cord, giving rise to symptoms which vary with the chance preponderance of cerebral, cerebellar or spinal cord damage.

As with all diseases of unknown cause, the treatment of multiple sclerosis has consisted of measures to control the symptomatology, as well as supportive therapy designed to correct abnormalities in the general health. Among the most frequent and distressing symptoms afflicting these patients are muscle spasm and spasticity. Papac² has reported these symptoms to be present in 75 per cent of 175 patients.

The mephenesin family of compounds has been widely reported to be effective in the relief of muscle spasm associated with a great variety of rheumatic and neurological disorders, fibrositis, ruptured intervertebral disc and trauma. Since the site of action of mephenesin is in the central nervous system, it was decided to assess the effectiveness of a new member of this family of drugs, mephenesin carbamate, on the muscle spasm and spasticity so common to multiple sclerosis patients.

The site of action of both mephenesin and mephenesin carbamate is identical.³ Hendley and associates⁴ described a blocking action of these drugs on the interneurons interposed between the afferent and efferent portions of the arc of multineuronal reflexes. Goodman and Gilman⁵ characterize them as centrally-acting, skeletal muscle relaxants and state that they have the pharmacological property of selective depression of subcortical, brain stem and spinal polysynaptic transmission. Conversely, effects upon monosynaptic reflexes and on the cerebral cortex are minimal.

The value of mephenesin has been limited by its relatively short duration of action. Dresel and Slater⁶ found this to be due to its rapid oxidation to

a carboxylic acid, which was inactive. By the creation of a new compound, mephenesin carbamate (2-hydroxy-3-o-tolyoxypropyl carbamate), the rapid inactivation of the drug appears to have been prevented. London and Poet⁷ compared the blood levels of the two drugs and found that at three hours, following an oral dose of three grams to humans, the average blood level of mephenesin was 1 mcg. per ml. compared to 10 mcg. per ml. of mephenesin carbamate. At four hours, there was no detectable blood level for mephenesin, but mephenesin carbamate was present in concentrations of 7 mcg. per ml., which was approximately as high a level as was found with mephenesin at the end of one hour.

Marshall⁸ treated a small group of patients with multiple sclerosis with mephenesin and mephenesin carbamate and observed improvement in spasticity, gait, and in the typical speech defect. Engler⁹ reported that relaxation of muscle spasm was achieved more rapidly and more effectively with mephenesin carbamate than with mephenesin. His patient group consisted of those with spasticity secondary to congenital hemiparesis, congenital spastic paraplegia, and choreoathetosis.

The results herein reported are consistent with the foregoing observations. In addition to the improvement of skeletal muscle dysfunction, an unexpected but extremely gratifying amelioration of urinary bladder distress was observed in all patients with this disorder.

MATERIALS AND METHODS

Drug—Mephenesin Carbamate (Tolseram) tablets—0.2 gram each.

Clinical Material—Thirteen patients ranging in age from 24 to 60 years. The average age was 38.7 years and the mean age was 38. These patients had suffered from multiple sclerosis for three to 20 years with only transient periods of remission. The average duration for the group was 8.8 years and the mean was seven years.

Dosage—1 to 2 grams (2 to 4 tablets) were given two to four times per day. (See Table I for indi-

Mephenesin Carbamate supplied as Tolseram® through the courtesy of E. R. Squibb & Sons.

vidual variations in daily dosage and for the specific symptom—complex affecting each patient.)

RESULTS

Change in Signs and Symptoms

Unchanged—The following were present in varying numbers of patients and were relatively unaffected by the medication: diplopia, emotional disturbances, clonus, nystagmus and speech defects.

Improved

1. *Ataxia*—Two of these six patients evidenced moderate to marked improvement in the quality of their gait.
2. *Intention Tremor*—Of two patients with severe and unremitting intention tremor, one obtained slight relief and the other moderate relief.
3. *Muscle Spasm and Spasticity*—Four of these nine patients observed moderate relief.
4. *Increased Deep Reflexes*—Five of the nine patients in whom this finding was marked were very appreciably improved.

5. *Urinary Bladder*

Frequency—Of eight patients, there was moderate reduction of frequency in five and marked reduction of frequency in two. One patient obtained complete relief.

Urgency—Of four patients, two were moderately improved and two were markedly relieved.

Incontinence—Of two patients, one obtained moderate but definite relief of incontinence, and in the other it was completely controlled by the medication.

CASE REPORTS—(See Table I)

C.B.—Disease was of seven years duration and was characterized by moderate spasm of the lower extremities, bilateral ankle clonus, moderate ataxia, urinary frequency and urgency, and increased deep reflexes. He was first seen in a period of acute decline when all the above became exaggerated.

On one Tolseram tablet four times daily, increased rapidly to three tablets four times daily, he was well enough to return to work in one week with improvement of all symptoms. Especially noteworthy was the striking reduction in urinary frequency and urgency. On his own, he increased

the dosage to five tablets four times daily. Feeling quite well for several months, and without returning for instructions, he then discontinued the medication. Shortly thereafter, spasm and ataxia returned and he had difficulty in working. At this time he was placed on two tablets four times daily and his improvement was regained and maintained.

W.P.—This woman had been afflicted for 15 years with ataxia, severe urinary frequency, weakness, muscle spasticity and increased deep reflexes. On two Tolseram tablets three times a day, ataxia and hyper-active deep reflexes diminished and the urinary frequency was completely relieved. In six months the medicine was discontinued and symptoms recurred. Resumption and maintenance of the same dosage brought relief for a year. Cessation of mephenesin carbamate was again followed by recurrence of symptoms. At present, she is on two tablets three times daily and is able to carry out a fairly normal routine.

Side Effects—No gastrointestinal disturbances were encountered. Patient were instructed to take the tablets after meals and the night dose with milk. Two patients did not wish to continue the medication, complaining it made them too relaxed and lethargic.

DISCUSSION

The notable improvement observed in muscle spasm and spasticity, deep reflexes, ataxia and tremor is not difficult of explanation. Goodman and Gilman⁵ state that mephenesin produces these effects by selective depression of subcortical and polysynaptic spinal pathways, unaccompanied by effects on the myoneural junction, neuronal conduction or on the cerebral cortex. Thus there is no interference with the neural control of normal muscle tone and movement.

Schlesinger¹⁰ observed that there is no question of the ability of mephenesin to alleviate the types of major muscle symptoms associated with multiple sclerosis—muscle spasm, muscle spasticity, involuntary movements and rigidity. He notes also that, although this is true by the intravenous route, it is the exception rather than the rule when mephenesin is administered orally.

The explanation for the unquestionable improvement in objective signs, observed when mephenesin carbamate was given by mouth, may lie in its far higher and more prolonged blood levels. London and

TABLE I
EFFECT OF MEPHENESIN CARBAMATE IN 13 PATIENTS WITH MULTIPLE SCLEROSIS

Name	Age	Sex	Age at Onset	Physical Findings and Complaints	Daily Dosage	Results
P.E.	33.	F.	28.	Marked generalized involvement. Gross tremor, hyperactive reflexes and ankle clonus, slurred speech. Urinary bladder frequency and urgency.	4 Gm.	Improvement of bladder control, slight lessening of tremor and clonus.
F.K.	38.	F.	30.	Marked instability of gait. Reflexes slightly hyperactive—no clonus. Markedly agitated. Bladder frequency and urgency.	2 Gm.	Improvement of urinary frequency and urgency — calmer — no change in gait.
J.C.	37.	F.	31.	Marked generalized involvement. Marked spasm, clonus, diplopia, slurred speech. Confined to bed or chair.	4-6 Gm.	Made patient very lethargic and unable to speak.
W.P.	45.	F.	30.	Moderate generalized involvement. Unstable gait. Urinary frequency marked. Increased deep reflexes.	3 Gm.	Markedly improved on drug. No urinary frequency. Gait more stable—activity increased.
J. B.	34.	F.	18.	Moderately severe involvement. Hyperactive reflexes, slurred speech, clonus. Confined to bed and wheel chair.	2 Gm.	Reported drug made her too relaxed at one time and caused muscle spasm the next. Took drug only occasionally. No change.
T.M.	45.	M.	38.	Lower extremities primarily involved. Marked spasm and clonus. No urinary changes.	2 Gm.	No change.
A.L.	24.	F.	20.	Moderate spasm. Easy fatigue. Occasional double vision. Clonus and increased reflexes. No urinary distress.	4 Gm.	Some relaxing effect. No change in reflexes.
J.B.	60.	M.	40.	Marked generalized involvement. Severe spasm, clonus, tremor, frequency and urgency, increased deep reflexes.	4 Gm.	Less spasm and tremor. More clonus. Less urinary frequency. Reflexes remained unchanged.
C.B.	42.	M.	35.	Period of dormancy then reactivation at age 40. Moderate spasm, increased reflexes, clonus and unstable gait. Urinary frequency and urgency.	4-10 Gm.	Less spasm. Reflexes less active. Work output increased. Bladder improved.
V.B.	40.	M.	32.	Severe spasm, increased reflexes, staggering gait, clonus, nystagmus, blurred vision and frequency.	2-4 Gm.	Less spasm. Reflexes unchanged. Frequency less. Calmer.
K.B.	39.	F.	30.	Severe involvement. Blind. Marked spasm, contractures, frequency incontinence and drug addiction.	4 Gm.	Frequency improved. Incontinence controlled. No change in other symptoms.
I.G.	34.	F.	31.	Moderate spasm. Diplopia. Staggering gait. No urinary frequency.	2 Gm.	No change.
K.T.	32.	F.	27.	Marked urinary frequency and urgency. Staggering gait, spasm, and increased reflexes.	4 Gm.	Marked improvement for several months then regression. Improvement when drug started again.

Poet⁷ reported that, three hours after an oral dose, mephenesin carbamate produced levels averaging ten times higher than mephenesin. Further, at four hours no mephenesin was detectable, while mephenesin carbamate was at a level equal to that of its parent compound at one hour.

The mechanism underlying the surprising and extremely gratifying improvement in the bladder symptoms of all eight of the 13 so troubled is more difficult to explain. This difficulty in the main arises from belief, commonly held, that members of the mephenesin family have no autonomic effects—are not “autonomic drugs”. That this is true in the ordinary meaning of the terms was demonstrated by Berger.¹¹ Berger’s conclusion, however, was based on the failure of mephenesin-type drugs to block the peripheral myoneural effects of acetylcholine, epinephrine, and histamine. Any autonomic effects from these drugs would not be expected at this site for they are known to have no influence on neuronal or myoneural conduction.

Since all impulses affecting urinary bladder function must go via the autonomic nervous system, is there an explanation for the marked clinical improvement, consistent with known anatomical and physiological facts? Firstly, all autonomic reflex arcs are polysynaptic. They include interneurons in the internuncial pool, in the spinal cord, or within the ganglia. Gerard¹² affirms that mephenesin and similar drugs depress polysynaptic more than monosynaptic reflexes. However, that they do so only by interfering with the interneurons in the spinal internuncial pool he regards as unproved and improbable. He also states that any nonspecific effect, e.g., low oxygen tension, low temperature, etc., is likely to depress multisynaptic reflexes more than monosynaptic—and the observable effect in question would be produced even if all cells and synapses were affected alike. In point here may be the observation of Goodman and Gilman¹³ that nonautonomic drugs, whose primary action is stimulation or depression of the central nervous system, may exert important visceral effects.

If, Schlesinger¹⁰ suggests, mephenesin damps the abnormal bombardment of the interneurons of the cord from central and peripheral origin, then it may produce an amelioration of the bladder symptoms by this mechanism. In any event, whether this approaches a true explanation of the observed clinical improvement, Schlesinger’s suggestion for drug-effect evaluation is pertinent. He believes that the study of the over-all response of patients’ symptoms to the

drug under study is the most reliable guide in judging its efficacy.

The absence of cerebral tranquilizing effect of mephenesin carbamate does not permit the assumption that the source of bladder improvement lies there. Further, it must be acknowledged that the nature of this experiment, and the number of patients studied, do not absolutely rule out placebo-effect. That this is not likely is suggested by the nature of the disease, the severity of the symptoms and their long duration prior to mephenesin carbamate therapy.

SUMMARY

1. Mephenesin carbamate therapy produced alleviation of muscle spasm and spasticity in approximately 50 per cent of patients with multiple sclerosis.
2. Also observed was worthwhile reduction in hyperactive deep reflexes, ataxia and intention tremor.
3. Unexpected, but dramatic, improvement occurred in all patients with urinary bladder frequency, urgency and incontinence.

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Driving Fitness Requirements

A new guide to assist physicians in determining the fitness of motorist to drive has been published by the American Medical Association. The guide, which appears in the March 14 *Journal of the A.M.A.*, was prepared by the committee on medical aspects of automobile injuries and deaths, following a two-year study. According to the committee, the purpose of the guide is to call attention to the areas in which the medical profession may be of help in combating the serious health problem caused by the large number of automobile accidents.

In an accompanying editorial, the committee said, "Injuries suffered in automobile accidents are an important health problem in the United States. About 37,000 persons were killed in automobile accidents in 1958 and about 5 million were injured seriously enough to require medical attendance or restriction of their activity for one day or longer.

"Human failure," the report noted, "overshadows all other factors in the production of highway accidents. The human mechanism must be in good condition to cope with the split second timing needed to maneuver high speed motor vehicles.

"The key to ultimate success in automobile accident prevention lies in the driver—his intelligence, his sense of personal and social responsibility, his reactions to various stimuli in normal conditions and under stress, and his driving ability in good health and in illness."

In general, the guide stated, an individual should be assessed medically to determine the answers to the following questions:

—Has the patient any physical and mental ability to manipulate the controls?

—Is the patient likely to suffer excessive fatigue that will impair his driving ability?

—Does the patient have the required vision and hearing for safe driving?

—Has the patient any physical or mental disorder

likely to cause confusion or a sudden loss of consciousness while driving?

—Is the patient likely to suffer a temporary impairment of mental, physical, or functional capacity due to alcohol, drugs, infections, or medical treatment?

—Does the patient have good emotional control or has he signs of antisocial behavior or an emotional disturbance making it unsafe for him to drive?

The committee said that the physician is qualified by training to ascertain the physical, mental, emotional, or physiological impairments of an individual. He is in a good position to evaluate these impairments in relation to safe driving ability.

Frequently, it may be necessary for a physician, recognizing his responsibility for the safety of his patient and the public, to caution the patient against driving for a certain period of time or even permanently.

In conclusion, the committee said, "It is probable that the next decade will see a greatly increased emphasis upon more stringent physical standards for licensing. It is believed that more and more patients will turn to their physicians for advice and assistance in this regard.

"On the basis of present knowledge, it is believed that a conscientious medical evaluation of the individual's fitness to drive safely, with appropriate follow-up, can reduce motor vehicle accidents very significantly."

Dr. Fletcher D. Woodward, Charlottesville, is chairman of the committee which made the report. Members of the committee include Drs. Horace E. Campbell, Denver; Jacob Kulowski, St. Joseph, Mo.; Harold M. Brandaleone New York; John R. Rodgers, Bellaire, Mich.; Seward E. Miller, Ann Arbor, Mich.; James L. Goddard, Washington, D.C.; Ross A. McFarland, Ph.D., Boston, is also a member.

The First Fifty Years

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PRIOR to the nineteenth century, the treatment of pulmonary tuberculosis was disorganized and without rational basis. In the nineteenth century, the concept arose that tuberculosis could be cured and that there are at least three approaches to intelligent treatment of the tuberculous. These concepts were: (1) Tuberculosis frequently arises because the individual has been subjected to an unsatisfactory environment, inadequate diet and improper living conditions so that he lacks the resistance to fight infection with the tubercle bacillus discovered by Robert Koch in 1882. Treatment, therefore, consisted in reversing this unfortunate grouping of circumstances and in putting the individual at bed rest amidst surroundings and influences calculated to enhance his resistance to the infecting organisms. (2) Tuberculosis is an ulcerating disease like other diseases; therefore surgery—by putting the lung at rest or by removing the most seriously affected portions of pulmonary tissues—could be curative. (3) Tuberculosis is an infectious disease and, like smallpox or diphtheria, can be prevented or cured by using appropriate biological substances.

Although these concepts were first formulated in the late nineteenth century, their full effectiveness was not felt until the beginning of the twentieth century. It is well to recall that the first concept, the one popularly termed the "hygienic-dietetic treatment," originated in England with the sanatorium of George Bodington but was really exploited fully for the first time by Brehmer and Detweiler in the Black Mountains of Germany. Edward Livingston Trudeau learned of this when he was found to be tuberculous and after winning his fight for recovery in the Adirondacks, he started the "Little Red" near Saranac Lake, New York, as the forerunner of the sanatorium system in this country. From this flowered a movement embodying prolonged rest as a means of therapy for tuberculosis.

As we celebrate the fiftieth anniversary of the establishment of the Virginia Tuberculosis Association, we may well pause to review some of the pages of history recorded in Virginia medical publications.

Read before the Virginia Tuberculosis Association at Richmond, April 8, 1959.

Here we note the enthusiasm of the physicians conducting the anti-tuberculosis efforts, their success and failures and their detailed observations. For example, Dr. James A. Burroughs reported in the *Virginia Medical Semi-Monthly* for March 12, 1909: "The first factor in treating tuberculosis is climate; the second, food; the third, intra-pulmonary medication; and the fourth, internal medication. . . . By day the patients are in the sun, resting upon the verandas in reclining chairs or upon cots. Those who have ceased having fever are instructed to take trolley rides or carriage drives. While driving, they are at times fully two thousand feet above our modest little village. With patients who are having fever, exercise is practically prohibited. . . . The diet consists of cream, eggs, beefsteak, breakfast strip and butter and salt ad libitum on everything. Without going into detail, I will state that an average adult should take daily one pint of cream, one quart of milk, twelve raw eggs, a beefsteak twice daily, weighing half a pound, several pieces of breakfast strip or bacon in the mornings in addition to the beefsteak, and not to the exclusion of same, and two baked Irish potatoes as large as goose eggs, one potato in the morning and one at night. At the noon meal the patient should be permitted to eat roast beef, or any kind of game, poultry, fish, or anything else he wishes. There is one point that I wish to express emphatically, regardless of what physiologists say upon the subject of osmosis of the skin, and it is this: That my patients are rubbed on retiring with pig's lard. They are presumed to absorb a portion of a pound each week, at least a pound is rubbed in. The rubbing helps poor muscles. The lard protects the skin from the vicissitudes of the weather and a goodly portion of it is undoubtedly absorbed. Bear's grease is preferable to pig's lard, as it is certainly more easily taken up by the skin. At one time I obtained twenty-eight hundred pounds of bear grease from Canada, but have only been able to obtain it in small quantities since."

We know that the hygienic-dietetic method helped restore many persons to health; more than this, it gave all patients the hope of ultimate recovery and enormously stimulated anti-tuberculosis efforts in general. With the hope of complete cure and return

to useful life, patients could be beseeched to report for diagnosis earlier and earlier. It was against a background such as this that the beginnings of the tuberculosis movement in Virginia burgeoned with the popularization of the double-barred cross. The Christmas Seal could be effectively and confidently sold as a means of educating the public to the value of treatment.

Unfortunately the hygienic-dietetic form of therapy was found not always to be successful so other forms of treatment were added when simple bed rest was not sufficient. The surgeons had shown that collapse of the lung—either temporarily or permanently—reduced its volume and promoted healing. Six months after Robert Koch had discovered the tubercle bacillus in 1882, an Italian physician named Carlo Forlanini was compressing the lung by the procedure termed artificial pneumothorax. The treatment dropped from popularity for a while and then, about 1909 when certain technical improvements eliminated many of its dangers, it became very popular. As Drs. Dean B. Cole, Frank S. Johns and P. E. Schools reported in the *Virginia Medical Monthly* for May 1926, this procedure had been in wide use in Virginia sanatoria for many years and was aiding many persons to return to useful and full living. Where pneumothorax was not possible because of technical considerations, Dr. A. J. Ochsner told The Medical Society of Virginia on October 14, 1924, selected cases could be very adequately treated by the rib-removing operation of thoracoplasty.

Within the past decade, collapse therapy has largely fallen into disuse because excisional surgery seems so much more promising. Since specific drugs have become available, thoracic surgeons may now remove whole lungs or portions of lungs when other forms of treatment have not brought about satisfactory resolution of the disease. Where treatment has been effective up to a certain point but there still remains a destroyed portion of lung acting as a present or potential threat to the life of the patient, removal of the affected portion may be life-saving. Reports in later issues of the *Virginia Medical Monthly*, especially those excellent summaries emanating from the Health Department, tabulated for the practitioner the benefits accruing from this over-all and complete treatment of the patient.

The third concept, that of promoting immunity to the tuberculous through artificial means, also received attention in the pages of the *Virginia Medical Monthly*. Robert Koch produced a substance from the tubercle bacilli and called it *tuberculin*. He at

first thought that this would act as a vaccine, but many experiences showed it to be too powerful for this use. Today it is used solely as a means of diagnosing tuberculosis and has undergone a remarkable repopularization. As described in the February 1955 issue of the *Virginia Medical Monthly*, "the tuberculin test becomes one of our most valuable weapons for the detection and ultimate control of tuberculosis."

In 1924, Calmette and Guérin in France produced a vaccine ("BCG") by subculturing a bovine tubercle bacillus with the ability of inducing resistance to tuberculous infection at little hazard to the vaccinated person. As the Virginia Department of Health informed practitioners, this vaccine is now recommended by the American Trudeau Society for prophylaxis but only in certain special situations. It can be used only if the tuberculin test is negative, indicating that the tested person has not been infected with tubercle bacilli, and it is not advised for general use. Where someone has a particularly dangerous exposure to tubercle bacilli—as may be true for medical students, nurses or in a family where contact cannot be broken—it can provide resistance to tuberculosis if only for a period of 3-5 years. The entirely successful vaccine, analogous to the smallpox vaccine of Jenner or the poliomyelitis vaccine of Salk, has not yet been announced.

To the three concepts elaborated in the preceding pages, there was added a fourth in the twentieth century: tuberculosis can be combated with specific drugs or antimicrobials. The process of using these drugs we call chemotherapy. It is interesting to note that again the radiance of the double-barred cross illuminates the discoveries of these agents and adds to the brilliance of the achievement. In 1914, Selman A. Waksman began the study of actinomycetes at the Department of Agriculture Experiment Station, Rutgers University. Among others, *A. griseus* was isolated from the soil and studied. In 1932, Dr. William Charles White, chairman of the first research committee of the NTA, asked him to study the fate of the tubercle bacillus in natural environments, especially in soils and water systems. It was discovered after three years of researching that certain fungi have the ability to repress the development of the tubercle organisms in the soil, especially manured soil. In 1939, he proceeded to study the development by soil microorganisms of substance active against pathogenic bacteria, substances later to be termed antibiotics. The first antibiotic isolated in 1940 was termed actinomycin; it destroyed the

tubercle bacillus but was too toxic for animal use. Later came streptothrycin but streptomycin soon appeared and had such promise that further studies with streptothrycin were discontinued. *Actinomyces griseus* was re-named *streptomyces griseus* and when the new substance was isolated in January 1944, it was termed "streptomycin". In April 1944 the drug was first used in animals and in November 1944 for the first time in a human patient. A new era had opened.

Streptomycin was immediately hailed universally, but a spokesman for the Medical College of Virginia as late as 1947 recalled similar earlier therapeutic failures and warned—"Streptomycin is a dangerous experimental drug. The physician should use it only with full laboratory control. The patient should sign a statement that he understands the limitations and the possible permanent damage. At the present time, it is not justifiable to use streptomycin on any patient who is doing well under the standard methods of treatment."

One could not hold back the tide of progress and soon other drugs were added to the therapeutic armamentarium. Para-amino-salicylic acid was soon found to be of greatest value when used with streptomycin to maintain the usefulness of this antibiotic. In 1952, isoniazid was announced. Two separate pharmaceutical companies worked independently with a sulfonamide brought back from Germany by the American Occupation forces and elaborated the substance which we now know as "INH". A premature press release almost brought mass hysteria, but the prompt intervention of the Managing Director of the National Tuberculosis Association, Dr. James E. Perkins brought together all persons interested in its manufacture and clinical application at an historic press conference at 1790 Broadway on February 21, 1952, and prepared the way for a very rapid and effective distribution of the drug throughout the country as well as in other lands. As Dr. Edward S. Ray concluded in the Virginia Medical Monthly for November 1955, "Experience with anti-tuberculosis drugs has served to emphasize the importance of continuous, uninterrupted therapy of tuberculosis until the disease is rendered inactive. This means, in most cases, the use of two of the anti-tuberculosis drugs for a minimum of one year and frequently for a period of 2 years or more. In

the treatment of cases that have irreversible disease, one should perform surgery under the protection of effective drug therapy and before the tubercle bacilli have become resistant to the anti-tuberculosis drugs."

Lastly, there appeared the general recognition that to be fully effective, treatment of tuberculosis must insure that the patient be returned to full social and economic usefulness, i.e., rehabilitated. The Virginia Health Department may once more be quoted: "All physicians dealing with tuberculosis are agreed that a good morale is 'essential' or at least exceedingly important a component in most treatment formulae." Similarly, it cannot be over-emphasized that morale must be developed and maintained adequate to the purpose after treatment requirements have been met by the patient if the latter is to recover from tuberculosis. Barring temporary concessions, mental and emotional adjustments must be developed as soon as practicable to the point where the patient will hold unwaveringly in the face of whatever medical regime may be prescribed either at the time of original diagnosis or in accordance with actual treatment requirements as determined after a period of observation." Never was the cliché "Rehabilitation begins with the diagnosis" more adequately validated!!!

The first fifty years of the Virginia Tuberculosis Association have been truly glorious ones. Only in small measure have they been written on the pages of the Virginia Medical Monthly and similar medical publications. To a far greater extent they have been written on the hearts of those thousands and thousands of patients who have recovered from the White Plague and perhaps they should be written on the pages of the books of those who will never have tuberculosis. Most of these people have little awareness or knowledge of Koch, Calmette and Guérin or Waksman and they may never have received the personal touch of those Virginia physicians whose prototypes were herein mentioned. To all those who worked with the Virginia Association, in the unpromising past or the thrillingly rewarding present, there comes the quiet satisfaction of a job well done, of the recognition that while tuberculosis still has to be *completely conquered*, the road ahead is bright and appealing.

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Significance of Paralysis of Recurrent Laryngeal Nerves

With Particular Reference to Patients in Whom the Etiology Was Presumably of Inflammatory Origin

Report of Fourteen Cases

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HOARSENESS is a frequent symptom and may result from many causes. The usual cause for this symptom is acute laryngitis, which begins as an ordinary upper respiratory infection and subsides in a reasonable period of time as irritation disappears. Hoarseness that persists and increases in intensity should of course suggest the presence of a laryngeal growth, either benign or malignant.

A third group of patients become hoarse as a result of disturbance in the motor function of the larynx from injury to one of the recurrent laryngeal nerves. As the left nerve is several times longer than the right, there is a greater opportunity for the former to be affected and consequently paralysis of the left nerve is much more often seen than the right. One or both recurrent laryngeal nerves may be injured from external trauma or more frequently during operation on the thyroid gland. In the absence of operation or other trauma, paralysis of one of these nerves usually indicates the presence of a malignant tumor within the thorax; when the nerve is invaded in such a case the growth should be considered inoperable. However, there is a small group of patients in whom paralysis of a nerve is apparently on an inflammatory basis, comparable to the more frequent involvement of the facial nerve as seen in Bell's paralysis, and in whom symptomatic and frequently normal functional activity is restored.

One patient, previously reported, developed left recurrent nerve paralysis following injection of tetanus antitoxin; after a few months the hoarseness disappeared and function of the nerve became normal.

Every patient with hoarseness should have the larynx examined with a mirror and if paralysis of a vocal cord is observed further study of the chest

and esophagus should be made. In the absence of a demonstrable lesion within the thorax a provisional favorable prognosis can be given but the patient should be examined from time to time so that changes in laryngeal function may be observed. Bronchoscopy and esophagoscopy are seldom indicated in these patients especially if the disturbance is thought to be caused by inflammatory reaction. A preceding cold with sudden development of hoarseness is quite suggestive of inflammatory nerve paralysis.

Because of the apparent lack of appreciation of the fact that hoarseness from a paralyzed laryngeal nerve may have a favorable prognosis, I am reporting fourteen such patients whom I have observed during the past twenty years.

Case I—Mrs. H. T., a white woman, approximately 68 years of age, was seen on February 26, 1940. Two weeks previously she had become ill suddenly with dyspnoea and hoarseness. Her condition rapidly became more alarming and she was rushed to hospital where a tracheostomy was done as an emergency procedure. She was almost moribund at the time of operation. For several days after the operation, she had fever which subsided following the use of sulfapyridine. Several days later a mass, thought to be malignant, was found obstructing the larynx in the region of the arytenoid areas.

When I first saw her, there was considerable edema and redness present especially in the region of the right arytenoid cartilage. There was gradual improvement in her condition but the tracheal tube was kept in place for about two months. At the time the tube was removed, there was paralysis of the right recurrent laryngeal nerve.

A year later she was well with a normal voice and a normally functioning larynx.

From the Medical College of Virginia.

Case II—D. T., a white man, 39 years of age, was examined April 10, 1950. He had noted hoarseness for five or six years that had varied in severity but was constantly present. The only other symptom was a little shortness of breath on exertion. Examination of the larynx revealed complete paralysis of the left vocal cord with redness of both cords; otherwise nothing abnormal could be found. A report from him nine years later stated that he had remained well but the hoarseness had continued as before.

Case III—Y. Y., a white man, 50 years of age, was examined October 28, 1943. He has previously had symptoms that had been attributed to a gastric ulcer but had been well otherwise until two days previously when he developed a cold; on awakening the following morning, he was hoarse. Examination revealed paralysis of the left recurrent nerve but nothing else abnormal was found.

The next day his voice was apparently normal but the paralysis had not changed. A year later the left vocal cord was still completely immobile but his voice was normal. In August, 1952, the patient had an operation for gastric ulcer; at that time intratracheal anesthesia was given. After this he seemed to have a cold and noted hoarseness. On examination of the larynx, the left vocal cord was still immobile and there was a small smooth granulomatous tumor just below the cord. This was removed and when the patient was last seen on February 25, 1959, his voice was normal but the left half of his larynx did not move on phonation.

Case IV—Mrs. G. C. C., a white woman, 60 years of age, was examined November 19, 1948. She stated that her throat had always been sensitive and during the past five years she had had about a dozen attacks of severe laryngeal spasm; these usually came on during sleep, especially if she had a cold. After freedom from these attacks for two years, she had a severe attack a week previously following an emotional upset. In other respects her health was excellent and she had never noted any hoarseness. Examination of the larynx revealed complete fixation of the left side. There was nothing to indicate an intra-thoracic lesion. The paralysis of the left recurrent nerve had probably been present for many years; the acute episodes of spasm were likely caused by aspiration of secretions during sleep. As the patient left her home several years later and her address is unknown, a report on her present condition is not available.

Case V—Miss G. C., a white woman, 25 years of age, was examined November 11, 1938. She was well until three months previously when she developed an upper respiratory infection that lasted only a few days but was associated with hoarseness. Following the cold, hoarseness persisted but varied in intensity depending upon how much she used her voice. She cleared her throat frequently and had an insignificant cough that was productive of a small amount of mucoid secretion. Since the onset of hoarseness, she strangled at times on drinking liquids. Her general examination was entirely normal except for paralysis of the left vocal cord. Gradually her voice became normal and function of the nerve was restored. The patient has been seen at intervals for the past twenty years without recurrence of her difficulty.

Case VI—W. V. F., a white man, 57 years of age, was well until the first week in April, 1942, when he developed a cold in his head and throat with a little cough. Three or four days later he became hoarse and when he was examined on May 4, 1942, the hoarseness had persisted, and was worse in the afternoon than in the morning. Because he was a railroad passenger conductor, the hoarseness had interfered with his work but he felt quite well in every other way. There was moderate hypertension present with a systolic blood pressure of 186 mm. of mercury and a diastolic pressure of 120, but his examination was otherwise normal save for paralysis of the left vocal cord. Within a period of two weeks, his voice began to improve but normal restoration of motion was not observed until examination was made July 27, 1942. He is now living in retirement and a report received from him on February 24, 1959, stated that he was perfectly well.

Case VII—L. O. H., a white man, 68 years of age, had been bothered with rheumatoid arthritis for twenty years but had been able to carry on his work as a barber. Seven weeks before my examination on November 17, 1955, he had gone to his shop as usual. After finishing with his first customer; when he called the second one he found he was hoarse. His physician examined his throat and finding that he had paralysis of the left vocal cord referred him to me for further study. The patient thought maybe his voice was a little better than at the onset of his hoarseness. He had no difficulty in swallowing solid food but would strangle when fluids were ingested too rapidly. His examination revealed evidence of arthritis in many joints with especial involvement of the hands and elbows. A roentgeno-

gram of the chest revealed what appeared to be old fibrous tuberculous disease in the upper lobes of both lungs. Examination of the larynx revealed paralysis on the left side with edema and redness in the region of the false vocal cords. This reaction was thought to be traumatic from attempting to force his voice. When he was examined again on March 28, 1956, he stated that his voice had improved gradually so that he was able to sing six weeks after I had first seen him. At the time of this last examination his voice was normal and there was no limitation of motion of the laryngeal structures.

Case VIII—W. M. G., a white man, 56 years of age, was examined March 6, 1953. He has been in good health except for rather severe headache for three days prior to February 25, when he suddenly became hoarse. He consulted his physician at once who said he had "flu" and prescribed medicine that nauseated him but did not relieve his chief complaint. His general examination revealed a right inguinal hernia, a systolic blood pressure of 220 mm. of mercury and a diastolic of 134 and paralysis of the left vocal cord. When he was re-examined on March 16, 1959, he was found to have a normally functioning larynx. The hoarseness disappeared within two or three months after the onset but his voice would become a little husky if he used it too strenuously. The blood pressure had been fairly well controlled by the administration of anti-hypertensive drugs.

Case IX—V. B. L., a white man, 45 years of age, was examined January 2, 1941. The patient was a pharmacist and while working in the basement of his store suddenly became hoarse about the middle of December, 1939. This symptom has persisted but was worse at times than at others. He had also noted strangling on swallowing liquids too rapidly. He stated that his "swallow seemed to be crooked". In July, 1940, he was sent to a tuberculosis sanatorium but examination there revealed nothing abnormal save for "redness of the larynx". At the time of my examination there was diffuse redness of both vocal cords and paralysis of the left side. The inflammatory reaction was attributed to the fact that the patient had forced his voice in attempting to be understood more clearly. He was advised to discontinue this additional effort; when examined a month later the inflammatory reaction was greatly reduced but the paralysis was unchanged.

A letter from the patient dated February 25, 1959, stated that his condition had not changed a great

deal although he thought his voice was little stronger. The paralysis has evidently persisted.

Case X—J. F. J., a white man, 47 years of age, was examined May 21, 1945. He had always been in good health although he felt that he was "nervous". His only complaint was that he had had three strangling spells during the preceding three years. Two of these had occurred during sleep; he awakened strangling with the fear that he could not get his breath. One spell had occurred during the day. He had not noted any difficulty in swallowing and had never noted significant hoarseness. His symptoms were thought to be emotional in origin until examination of the larynx revealed left recurrent nerve paralysis; on swallowing barium for roentgenoscopic study of the esophagus there was definite delay of the passage of the material from the pyriform fossae. His symptoms had therefore resulted from aspiration of fluid into the larynx from motor nerve weakness.

A letter from the patient dated February 27, 1959, stated that he had continued to have spells of strangling about two or three times a year.

Case XI—H. J., a white man, 56 years of age, had been well until January 1, 1950, when he developed an upper respiratory infection. This cleared up completely but recurred in about three or four weeks and this time he suddenly became hoarse. The hoarseness had varied in severity but when I saw him on June 15, 1950, he felt that he was somewhat improved. Examination of the larynx revealed paralysis of the left vocal cord and roentgenoscopic examination of the esophagus revealed a sliding type of hiatal esophageal hernia that was not associated with symptoms. He was seen again on October 7, 1950; at that time his voice was almost normal and there was little or no limitation of movement of the vocal cord. On his most recent examination, February 29, 1959, he felt quite well and the laryngeal function was entirely normal.

Case XII—Mrs. M. E. R., a white woman, 67 years of age, was examined February 4, 1952. She had been well until a year previously when she gradually became hoarse. The hoarseness was present all the time but was worse when she was nervous. She had also noted strangling at times when swallowing liquids. Examination of her larynx revealed paralysis of the left vocal cord; roentgenoscopic study of the esophagus revealed an overflow of barium mixture into the larynx on swallowing. There was also hypertension with a systolic pressure of 180 mm. of mercury and a diastolic pressure of 128.

Further report from the patient was not available but the duration of the hoarseness, without evidence of other disease, makes the diagnosis of inflammatory changes in the recurrent laryngeal nerve fairly certain.

Case XIII—V. J. P., a white man, 31 years of age, was examined July 25, 1946. He had been perfectly well until two months previously when he developed an upper respiratory infection and a week later suddenly became hoarse. He thought he probably had laryngitis but when examined by his home doctor was found to have paralysis of one of his vocal cords and was referred to me for advice. His general condition was excellent except for paralysis of the right vocal cord. There was no subsequent report of his condition.

Case XIV—C. B. N., a white man, 43 years of age, had been well until October, 1952, when he developed a cold, associated with hoarseness. This cleared up but reappeared two months later. Again his symptoms disappeared only to recur two months later. When he was seen on September 9, 1953, he had been continuously hoarse since February, 1953. He had associated strangling on drinking fluids and occasional "catch" on swallowing solid food. His examination was completely normal save for paralysis of the left vocal cord.

He did not return for further examination and his present condition is unknown.

SUMMARY

Fourteen patients are presented who apparently

had paralysis of a vocal cord resulting from inflammatory reaction in one of the recurrent laryngeal nerves. In twelve patients, the left nerve was involved and in two, the right one. The onset of hoarseness was usually sudden and frequently followed an ordinary upper respiratory infection. Ten of the patients were men and four were women. Complete restoration of normal voice was observed in seven patients and normal function of the larynx in six. Two of the patients had strangling spells only, without hoarseness, and in both the symptoms were thought to be emotional in origin until examination revealed the true basis for the complaint. One of these has continued to have symptoms; the other cannot be traced. In two patients, hoarseness has persisted; three others cannot be located. Strangling on swallowing liquids rapidly is a frequent symptom in paralysis of a recurrent laryngeal nerve.

There is no specific treatment for the condition, but secondary traumatic laryngitis may be relieved or avoided by getting patients to refrain from forcing their voices.

REFERENCE

1. Floyd, Hal S.; Pembleton, Williams E.; and Vinson, Porter P.: Paralysis of Left Recurrent Laryngeal Nerve Following Subcutaneous Administration of Antitetanic Serum. *West Virginia M. J.* 30:253-254 (July) 1942.

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TV Reduces Boredom for Aging

Television has brought new interest, enjoyment and meaning to the lives of millions of the Nation's senior citizens, a prominent specialist on old age believes. TV has also done much to eliminate the boredom of inactivity for aging people, according to Dr. Joseph T. Freeman, chairman of the commission on geriatrics of the Medical Society of the State of Pennsylvania.

"Old ladies who used to languish at home, in rebellion at being left out of things by their children or grandchildren, now can hardly wait for the gadabouts to leave so that the dial can be turned to a favorite program," Dr. Freeman writes in the June 13 issue of *TV GUIDE* magazine.

Television has also given America's elder citizens a renewed interest in their health.

Aureomycin, Chloramphenicol and Hydrocortisone

In Ointments and Pastes as a Treatment for Eczema

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ALTHOUGH THE ROLE of the bacteria in the genesis of eczema has been suspected since the beginning of dermatology, not until recent times were clinical cases described which were caused by bacterial flora. The French School of Dermatology, and principally Sabouraud and Gougerot, systematized the clinical symptomatology of the then called "streptococcides et staphylococcides eczematiformes" and "dermo-epidermite microbienne". However, even these descriptions do not offer too clear a concept of the possibilities of pyogenic organisms as sensitizing agents, nor was the difference clear between a true microbial eczema and a secondarily infected eczema of another origin.

The reports of Robert,¹ Storck,²⁻⁵ and Miescher⁶⁻⁹ were the first which presented convincing proof that pyogenic organisms, which we generally find in the normal skin, could not only give local eczematous reactions, but could also provoke eczematous sensitization at a distance. Filtrates of broth cultures of *Staphylococcus aureus* provoked eczematoid reactions with typical spongiosis histologically and with special frequency, in patients with eczema and less often in normal persons. In occasional cases, true eczematous patch test reactions could be obtained with organisms cultured from eczema lesions and in various types of eczema cutaneous microbes were either of major importance or of exclusive significance.

Rajka¹⁰ demonstrated specific, mobile, bacterial reagins and, in a few cases, positive blood cultures were obtained at the beginning of dissemination of an eczema.

Andersen and Heilesen¹¹ reported that the specific manner in which the skin reacts in vivo to certain bacterial strains could be paralleled in vitro by agglutination reactions.

In the actual treatment of eczema it is very im-

portant to consider the frequent and important role of microbial flora; therefore, it is necessary to combine antibacterial and antieczematous treatment in the therapy of numerous dermatological syndromes.

Although the treatment of eczema with the common antieczematous drugs is successful with some of the eczematous patients when it helps the auto-sterilization of the skin by drying the vesicles and the region, thereby reducing the proliferation of the bacteria (Pillsbury and Rebell),¹² and although the antibacterial agents alone can give good results in some cases of eczema, it is certainly more rational to join both therapeutic agents in order to eliminate quickly the possibilities of a microbial sensitization at a distance and to eliminate the almost certain probability of a local sensitization.

The association of an antiseptic agent with an antieczematous drug is an old concept which was frequently followed in the old prescriptions. For many years the salts of mercury, silver, lead and other metals and antiseptics have been combined in dermatological prescriptions with the classic antieczematous drugs (coal tar, naphthalan, tumenol, ichthyol). This type of association was not only used for the treatment of microbial eczema, it was even utilized as a therapy for all kinds of eczema and even for pure pyoderma. Later, these associations were abandoned with the advent of substances difficult to associate with other drugs, such as the colorants, the diluted antiseptics and other medications.

The findings of Robert,¹ Storck²⁻⁵ and Miescher⁶⁻⁹ led to a new type of therapy in an attempt to modify the general status of the patient with eczema in order to obtain a specific desensitization. But results of the use of toxoid and vaccines are often doubtful.

More recently the antibiotics and corticosteroids have proven to be extremely useful drugs, which nevertheless when used alone do not constitute the ideal therapy for the treatment of eczema.

Antibiotics attack only the organism factor. Sen-

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sitization and "eczematous" factors are permitted free play.

Steroids are suppressive only against inflammation. They are a tremendous adjunct when intelligently used, but not the last word, and still expensive for hospital use. Their use is excellent in allergic contact dermatitis. Their success is doubtful in nummular eczema and other types.

Our clinical experience in the treatment of several hundred patients with pyodermitis with various antibiotic ointments and particularly with chloromycetin ointment (2%) and aureomycin ointment (3%) convinces us of the effectiveness of these agents. This experience has shown us that since chloromycetin and aureomycin do not have high sensitizing index when applied locally, they can be safely used in cases of eczema and therefore with patients endowed with a hypersensitive (allergic) skin.

Although antibiotic ointments applied on pyoderma and on microbial eczema satisfy an etiologic indication, they do not have any direct effect on the anatomical lesions which must be modified at the same time that we sterilize the lesion. It is understood that microbial eczema is the infectious complication of a previous dermatitis of different causes. For this reason the success of the antibiotic ointments in microbial eczema is only partial.

We are aware, as are Vilanova¹³⁻¹⁷ and other authors, such as Sullivan and King,¹⁸ of the selective action of the podophyllum resin and the podophylotoxin on the histological lesion of eczema (spongiosis) and their low sensitizing power when applied in concentration of 1/1000 or lower.

We believe, as do the previously mentioned authors, in the important role of bacteria in eczema. We consider it fundamental to combine in one prescription:

a) An excipient or classic base, often without penetrant action, but with excellent dermatological properties (petrolatum, lanolin, carbowaxes, etc.).

b) An antibiotic agent (aureomycin, chloramphenicol, etc.).

c) An anti-spongiotic drug (podophyllin).

d) A classic antieczematous, anti-inflammatory, antipruritic drug (coal tar, naphthalan, tumenol, ichthyol, etc.).

e) An anti-inflammatory hormone such as hydrocortisone.

Our research was made in an attempt to find an "ideal prescription" for the treatment of patients with eczema, who comprise about 25% of the patients seen in a dermatologic clinic.

METHOD OF STUDY

One hundred and thirty-five prescriptions were prepared. The bases of these ointments and pastes were selected from the more classic dermatological prescriptions. We preferred the use of pastes as bases since we believe with many authors, such as Polano,¹⁹ in the superiority of pastes over ointments. Polano pointed out, with reason, that a great many of the failures met in general practice in the treatment of dermatoses are due to the indiscriminate prescription of ointments and the neglect of pastes.

The bases of our prescriptions were: white petrolatum, anhydrous lanolin, carbowaxes (carbowax 400 and carbowax 1500) and a Lassar's Paste (white petrolatum, anhydrous lanolin, zinc oxide and talcum aa). We incorporated the following drugs in these pastes:

a) Aureomycin 3% (Chlortetracycline H Cl) or Chloromycetin 2% (Chloramphenicol).

b) Hydrocortisone acetate 1%.

c) Podophyllum resin 1/1000 and podophylotoxin 1/1000.

d) We selected as a complementary medication, a group of "antieczematous" agents such as crude coal tar, ichthyol, tumenol ammonium, naphthalan and precipitated sulphur. All were incorporated at 5%.

THE PREPARATION OF OINTMENTS AND PASTES

The majority of the prescriptions were prepared by a mechanical incorporation method, performed by trituration in a mortar or on a glass slab with a spatula. As many of the medicaments to be incorporated into the bases were frequently insoluble in the base, it was necessary to reduce them to an impalpable powder. We used a small portion of the base and gradually incorporated the powder to form a very smooth nucleus, which could then be incorporated with less effort with the remainder of the base, assuring a smooth homogeneous ointment or paste.

In order to prepare some of the ointments with carbowaxes, we used the fusion method and the ingredients were melted on a water bath to avoid excessive temperature.

After preparation, the ointments or pastes were placed in jars of porcelain or collapsible tubes of tin. We personally prepared the majority of these ointments and we always tried to follow the maxims recommended by the Pharmacy.

An identification number was assigned and a record made containing the date of preparation, the

material composition, the technique used in preparation, the quantity, the characteristics and physical properties such as color, consistency, texture, compatibility, etc.

Samples of each were submitted to microbiological tests immediately after preparation, and the remainder of the medication was carefully stored in an automatically regulated themostatic enclosure at 37°C. The microbiological tests and a careful study of the physical properties of all prescriptions were repeated after 15, 30 and 250 days. (Tables 1, 2, 3 and 4)

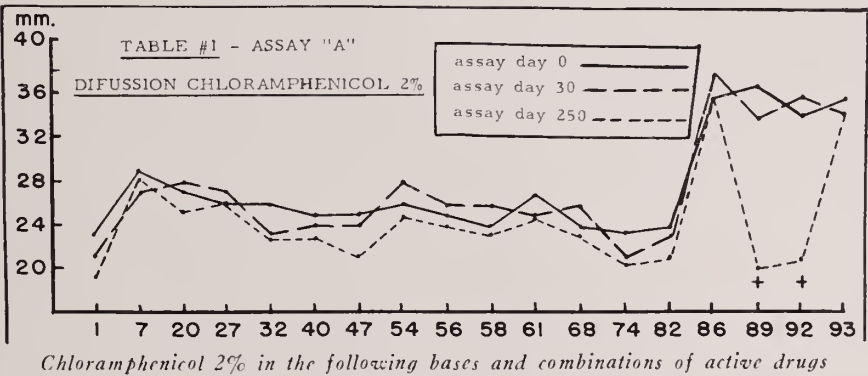
Since the loss of therapeutic activity of an ointment kept at 37°C. is twice that of one kept at a normal temperature of 18°C., the loss suffered in an ointment or paste kept at 37°C. during six months is equivalent to that lost if an ointment were kept at a normal temperature for one year.

An ointment, kept at a normal temperature, must not lose more than 10% of its activity in order to be manufactured for commercial use.

From the pharmacological point of view, the most important problem was to determine the behavior of the antibiotics incorporated in the prescription. If they suffered an immediate alteration, it would not be possible to incorporate them into the classic bases, and if the alteration occurred later, it would be necessary to advise the patients of this possibility, and it would also be impossible to prepare large amounts for hospital or commercial use.

We first assayed different methods in order to learn the degradation of the antibiotics. We repeated the assay methods after 15, 30 and 250 days in order to have a chronological record.

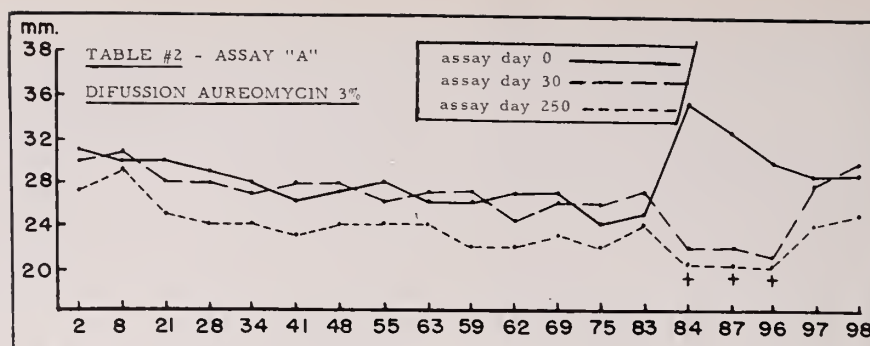
Six months later, we experimented with these same medications in the clinic.



1	(White petrolatum	98.00%	68	{Lassar's paste	92.90%
7	(Anhydrous lanolin	98.00%		{Coal tar (crude)	5.00%
20	(Lassar's paste*	98.00%		{Podophyllotoxin	0.10%
	{Lassar's paste	93.00%	74	{Lassar's paste	92.90%
27	{Coal tar (crude)	5.00%		{Naphthalan	5.00%
	{Lassar's paste	93.00%		{Podophyllum resin	0.10%
32	{Naphthalan	5.00%	82	{Lassar's paste	92.90%
	{Lassar's paste	93.00%		{Naphthalan	5.00%
40	{Tumenol ammonium	5.00%		{Podophyllotoxin	0.10%
	{Lassar's paste	93.00%	86	{Carbowax 400	49.00%
47	{Ichthyol	5.00%		{Carbowax 1500	49.00%
	{Lassar's paste	93.00%	89	{Carbowax 400	47.50%
54	{Sulfur (precipitated)	5.00%		{Carbowax 1500	47.50%
	{Lassar's paste	97.90%	92	{Aureomycin	3.00%
56	{Podophyllum resin	0.10%		{Carbowax 400	24.50%
	{Lassar's paste	97.90%	93	{Carbowax 1500	24.50%
58	{Podophyllotoxin	0.10%		{Lassar's paste	49.00%
	{Lassar's paste	92.90%		{Carbowax 400	23.25%
61	{Coal tar (crude)	5.00%		{Carbowax 1500	23.25%
	{Podophyllum resin	0.10%		{Zinc Oxide	46.50%
				{Coal tar (crude)	5.00%

* LASSAR'S PASTE: we used { white petrolatum, anhydrous lanolin
Zinc oxide, talcum aa.

+ Unstable mixtures (loss of homogeneity and physical properties) The remaining prescriptions retained their antibiotic activity during the test period (250 days stored at 37° C.)



Aureomycin 3% in the following bases and combinations of active drugs:

2	(White petrolatum -----	97.00%			
8	(Anhydrous lanolin -----	97.00%			
21	(Lassar's paste* -----	97.00%			
	{ Lassar's paste -----	92.00%			
28	{ Coal tar (crude) -----	5.00%			
	{ Lassar's paste -----	92.00%			
34	{ Naphthalan -----	5.00%			
	{ Lassar's paste -----	92.00%			
41	{ Tumenol ammonium -----	5.00%			
	{ Lassar's paste -----	92.00%			
48	{ Ichthyol -----	5.00%			
	{ Lassar's paste -----	92.00%			
55	{ Sulfur (precipitated) -----	5.00%			
	{ Lassar's paste -----	96.90%			
63	{ Podophyllum resin -----	0.10%			
	{ Lassar's paste -----	96.90%			
59	{ Podophyllotoxin -----	0.10%			
	{ Lassar's paste -----	91.90%			
62	{ Coal tar (crude) -----	5.00%			
	{ Podophyllum resin -----	0.10%			
	{ Lassar's paste -----	91.90%			
69	{ Coal tar -----	5.00%			
	{ Podophyllotoxin -----	0.10%			
	{ Lassar's paste -----	91.90%			
	{ Naphthalan -----	5.00%			
	{ Podophyllum resin -----	0.10%			
	{ Carbowax 400 -----	48.50%			
	{ Carbowax 1500 -----	48.50%			
	{ Carbowax 400 -----	47.00%			
	{ Carbowax 1500 -----	47.00%			
	{ Chloramphenicol -----	2.00%			
	{ Hydrocortisone acetate -----	1.00%			
	{ White petrolatum -----	47.50%			
	{ Anhydrous lanolin -----	47.50%			
	{ Chloramphenicol -----	2.00%			
	{ White petrolatum -----	48.00%			
	{ Anhydrous lanolin -----	48.00%			
	{ Hydrocortisone acetate -----	1.00%			
	{ White petrolatum -----	47.00%			
	{ Anhydrous lanolin -----	47.00%			
	{ Hydrocortisone acetate -----	1.00%			
	{ Chloramphenicol -----	2.00%			

* LASSAR'S PASTE: we used { white petrolatum, anhydrous lanolin
 { Zinc oxide, talcum aa.

+ Unstable mixture (loss of homogeneity and physical properties). The remaining prescriptions retained their antibiotic activity during the test period (250 days stored at 37° C.)

There are different methods to analyze the active drugs or antibiotics incorporated in ointments. But it seems that the usual chemical methods with extraction of the excipient and determination of the active drugs or antibiotics (purity test with colorimetric method, method of dilution, etc.) are not efficient.

For example, the N or Cl of the molecule in the chemical composition of chloramphenicol is determined. When chloramphenicol suffers any alteration, it generally is hydrolized and the N or Cl persist, but pharmacologically and therapeutically it becomes inactive.

We tried to assay chloramphenicol contained in our ointments by the "Ultraviolet Method" (Beckman), but it was not accurate. Faulty results were

obtained with coal tars and benzene groups, and in two of the ointments tested, 200% of chloramphenicol was indicated, which of course was not possible.

The "Bratton Marshall Method" might be more accurate, but we chose the microbiological methods since they are universally accepted.

We tried several microbiological methods such as dilution, drop-on-plate, cylinder-plate, filter paper disc and agar-cup. We selected the agar-cup method because it was routine and well known in our laboratory.

ASSAYS AND METHODS

A) We assayed the antibiotics of all our prescriptions directly by the agar-cup method.

B) We selected ten prescriptions with 2% Chlor-

ture lasted. The spore cultures were stored in a refrigerator and could be used indefinitely; practically complete standardization of the inoculum was thereby achieved and its daily preparation eliminated.

We used special culture plates. These plates are larger than normal and their use facilitates the numerous assays of the ointments to be tested. We

have two different-sized plates (20 cm. x 32 cm. and 38 cm. x 26 cm.).

The sides of these plates are made of steel and the bottom is made of glass in order to permit the taking of pictures. They are dismountable for easy cleaning. With these plates it is possible to assay from 40 to 54 samples at the same time.

Two hundred and eighty cc. of an agar culture

TABLE #4—ACTIVITY RESULTS OF ASSAY "B"

oint. #	day 0	prescriptions stored at 37° C.		
		day 30	day 250	% loss
61	97.0%	96.5%	93.0%	4.0%
68	97.0%	95.4%	89.0%	8.0%
74	97.2%	97.0%	93.5%	3.7%
77	94.6%	94.0%	93.0%	1.6%
80	100.0%	97.0%	94.0%	6.0%
85	95.4%	95.4%	95.4%	0.0%
71	94.3%	94.4%	94.4%	0.0%
91**	80.0%	89.0%	40.0%	40.0%**
87**	150.0%	60.0%	50.0%	**
1	100.0%	99.0%	99.9%	0.10%

Composition of prescriptions

61	Lassar's paste*	92.90%	80	Lassar's paste	96.90%
	Coal tar (crude)	5.00%		Podophyllum resin	0.10%
	Podophyllum resin	0.10%		Chloramphenicol	2.00%
	Chloramphenicol	2.00%		Hydrocortisone acetate	1.00%
68	Lassar's paste	92.90%	85	Lassar's paste	91.90%
	Coal tar (crude)	5.00%		Naphthalan	5.00%
	Podophyllotoxin	0.10%		Podophyllotoxin	0.10%
	Chloramphenicol	2.00%		Chloramphenicol	2.00%
74	Lassar's paste	92.90%	71	Hydrocortisone acetate	1.00%
	Naphthalan	5.00%		Lassar's paste	91.90%
	Podophyllum resin	0.10%		Coal tar (crude)	5.00%
	Chloramphenicol	2.00%		Podophyllotoxin	0.10%
77	Lassar's paste	91.90%	91	Chloramphenicol	2.00%
	Naphthalan	5.00%		Hydrocortisone acetate	1.00%
	Podophyllum resin	0.10%		Carbowax (400-1500)	49.00%
	Chloramphenicol	2.00%		Lassar's paste	48.00%
1	Hydrocortisone acetate	1.00%	87	Chloramphenicol	2.00%
	White petrolatum	98.00%		Hydrocortisone acetate	1.00%
	Chloramphenicol	2.00%		Carbowax (400-1500)	94.00%

* LASSAR PASTE: we used { white petrolatum, anhydrous lanolin,
zinc oxide, talcum aa.

** Unstable mixtures (loss of homogeneity and physical properties)

medium was melted before it was apportioned into plates. The melted agar was cooled at 42°C.

Forty cc. of melted agar was seeded with *Bacillus subtilis* (A.T.C.C. 9466) and apportioned in the same plate. This seeded agar made a second layer on the surface of the first culture medium of approximately 15 mm. thickness.

From this culture, plate discs were punched out with a cork borer attached to a vacuum pump. The removal discs were discarded.

Then three or four drops of a standard solution of Chloramphenicol were placed with a capillary pipette in alternate holes of the plate. The standard is a water distillate solution (7 gammas per cc.) of a recrystallized synthetic: (D-threo-1-paranitrophenyl-2-dichloro-acylamido-1, 3-propanediol) previously confronted with a biological standard. This standard advised us if the growth of the *Bacillus subtilis* was or was not regularly uniform in all the plate. Occasionally we used standards of commercial ointments with Chloramphenicol 2% or Aureomycin Cl 3%.

In the remainder of the holes we placed the different ointments to be tested. We recommend that the ointments be kept in tubes equipped with a nasal canula, which makes this operation easier.

The plates were incubated for five to six hours at 37°C.

By the end of incubation the holes are surrounded by a circular zone where no bacterial growth has occurred. The diameter of the zone depends on the concentration of the antibiotic and on the diffusibility of the ointment's base.

Immediately after incubation, the plates were placed over a photographic film which was then exposed by directing a light through the plate. This method produces an accurate contact print which then can be exactly measured.

Three holes were employed for each ointment investigated.

The diameters of the zones of inhibition were accurately measured and the results were recorded on a graph. (Tables 1, 2 and 3)

We repeated the assay at 15, 30 and 250 days.

Results—Assay A:

- (1) Each antibiotic diffused approximately the same as the other when in the same prescription.
- (2) The diffusion was greater in the carbowaxes than in other bases.
- (3) Prescriptions #89, #92, #84, #87, #96, #43,

and #91 were found to be unstable (loss of homogeneity and physical properties).

- (4) The remaining prescriptions retained their antibiotic activity during the test period.

Assay B

Ten prescriptions with 2% Chloramphenicol were selected and the bases were chemically extracted by routine chemical procedure in the Soxhlet apparatus.

We obtained a problem solution of the Chloramphenicol which remained in the ointment and assayed it by the agar-cup method.

The extraction of excipients in the Soxhlet apparatus is a chemical routine and we do not consider it pertinent to describe it in this paper.

The results obtained through this method (Table 4) were very accurate, ($\pm 3\%$).

Results—Assay B:

- (1) Paralleled the results in Assay A.
- (2) Prescriptions #91 and #97 were found to be unstable (loss of homogeneity and physical properties).
- (3) The remaining prescriptions in Table 4 suffered less than 10% loss of biological activity in the 250-day test period, when kept at 37°C.

CLINICAL STUDIES

During several months patients with eczematous dermatitis were treated with the prescriptions assayed previously in the laboratory. The ointment or paste was applied three times daily. Patients were observed every other day for a period of two to four weeks. "Patch tests" were conducted with these formulations. These tests were carried out to determine possible irritant and sensitizing properties of these prescriptions. The tests were performed according to the technique recommended by Schwartz and Peck.²³ The results are found in Table 5.

Results: Of 250 patients (106 males-144 females) treated with prescriptions #71 and #69, the following results were obtained:

Of 150 patients treated with 2% Chloramphenicol (Prescription #71):

108 Cleared
39 Improved
3 Worse

Of 100 patients treated with 3% Aureomycin (Prescription #69):

71 Cleared
27 Improved
2 Worse

TABLE 5

CLINIC EXPERIENCE AND "PATCH TEST" RESULTS IN 250 ECZEMATOUS PATIENTS TREATED WITH PASTES NOS. 71 AND 69

Chloramphenicol 2%				Types and Eczema Localizations	Aureomycin 3%				"Patch Test"		
No. patients	Pt. cleared	Pt. improved	Pt. made worse		No. patients	Pt. cleared	Pt. improved	Pt. made worse			
										+	++
45	35	9	1	Microbial eczema (retro-auricular region*)	14	12	2	0	& (base) (coalter) & & & (both coalter) & (chloramphenicol)		
8	8	0	0	" " (nipples and breast)	6	4	1	1			
7	6	1	0	" " (feet)	5	3	2	0			
10	7	3	0	" " (hands)	8	5	3	0			
10	7	3	0	Perleche	9	8	1	0			
10	6	4	0	Stasis dermatitis	7	4	3	0			
10	7	3	0	Intertrigo	8	6	2	0			
10	6	3	1	Atopic dermatitis	8	5	2	1			
10	5	5	0	Circumscribed chronic neuro-dermatitis	7	5	2	0			
12	10	1	1	Contact eczematous dermatitis	10	6	4	0			
8	5	3	0	Nummular eczema	5	4	1	0			
8	5	3	0	Mixed types	10	7	3	0			
2	1	1	0	Non atopic infantile eczema	3	2	1	0			
150	108	39	3	Total Patients Observed	100	71	27	2			

*Including some seborrheic dermatitis localized on the face.

Paste No. 71—Lassar's paste 91.90%, coalter (crude) 5%, podophyllum resin 0.10%, Hydrocortisone 1% Chloramph. 2%.

Paste No. 69—Lassar's paste 91.90%, coalter (crude) 5%, podophyllotoxin 0.10%, Aureomycin 3%.

The number of patients cleared may have been higher since many of the patients who showed improvement failed to return for a final examination.

Patch tests were conducted with prescriptions #71 and #69:

- 3 patients reacted (2 plus) to coal tar
- 1 patient reacted (3 plus) to chloramphenicol
- 1 patient reacted (3 plus) to base

CONCLUSIONS

(1) That antibiotics could be favorably associated with antieczematous drugs, antisponticotic agents and corticosteroids in classic ointments and pastes was shown in our laboratory and clinical studies.

(2) Chloramphenicol (2%) and Aureomycin (3%) incorporated into classic ointments and pastes, such as Lassar's paste, antieczematous agents (coal tar, ichthyol, naphthalan, tumenol ammonium, sulphur), antisponticotic drugs (podophyllin), anti-

inflammatory hormones (Hydrocortisone acetate):

- a) maintain their antibiotic properties, in vitro, for several months (more than 20 months in our investigation)
- b) lost approximately only 10% of their activity
- c) did not increase their sensitizing power when incorporated into these prescriptions

(3) The antisponticotic action of Podophyllin 1:1000 was preserved in the prescriptions.

(4) Pharmacologically, the association of these drugs with the classic ointments and pastes produced stable and homogeneous mixtures.

(5) Out of 250 patients treated with these prescriptions, 179 were cleared after local applications, 66 improved and only 5 were made worse.

(6) Patch tests on these patients indicated 2% sensitizing index of these prescriptions.

(7) The intolerances we found were due mainly to:

Coal Tar -----3 patients
 Chloramphenicol -----1 patient
 Base or Excipient-----1 patient

SUMMARY

The role of bacteria in eczematous processes is discussed with reference to pertinent literature.

Aureomycin 3% and Chloramphenicol 2% were incorporated into classic ointments and pastes, together with antieczematous agents.

Two methods are described for assaying, in vitro, the potency of antibiotic ointments and pastes.

These methods were employed to determine the comparable potency of many such drugs and the results are reported.

The results of the use of these prescriptions on 250 patients afflicted with various forms of eczema are reported.

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Coxsackie B-5 Infections

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SINCE THE ISOLATION of the first of the five Group B Coxsackie viruses by Dalldorf, members of this group have been associated with epidemic pleurodynia, aseptic meningitis, and myocarditis in newborn infants.¹ Coxsackie B-5, although isolated in 1952,² was clearly related to human disease by Syverton *et al*³ and Rubin *et al*⁴ in studies of aseptic meningitis occurring in Minnesota and Iowa during the summer of 1956.

Coxsackie B-5 was isolated from 12 patient hospitalized with aseptic meningitis at the Medical College of Virginia during the summer of 1957. During this period physicians in Virginia reported frequent cases of nonbacterial meningitis with a concentration of cases in the lower Peninsula and to a lesser extent in Pittsylvania county and in Roanoke.⁵ The evolving role of this virus in human diseases and its possible contribution to the increased number of cases of aseptic meningitis encountered in the state in 1957 is discussed.

ISOLATION PROCEDURES

Rectal and throat swab specimens were collected in tryptose phosphate broth containing penicillin 100 units, streptomycin 100 micrograms, tetracycline 20 micrograms and mycostatin 20 units per ml. Rectal, throat and spinal fluid specimens were stored at -50° C. until use. Each specimen was inoculated into HeLa cell⁶ tissue cultures and the cultures observed for cellular changes. Identification of isolated viruses was accomplished by neutralization tests in tissue culture with antisera obtained through the courtesy of The National Foundation.

LABORATORY RESULTS

Adequate specimens were obtained from 49 pa-

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tients with aseptic meningitis. Coxsackie B-5 was isolated from 12 patients, Coxsackie B-4 from two, and Polio virus from four (type I, two; type II, one; type III, one). Coxsackie B-5 was recovered from both rectal and throat specimens from four patients, from rectal specimens only in seven patients and from the throat specimen only in one patient. No isolations were made from the spinal fluid in this series.

CLINICAL

The clinical picture of patients from which Coxsackie B-5 was recovered was not distinguishable from that of other patients seen in this or previous years with aseptic meningitis. It consisted of fever, headache, malaise, nausea and vomiting, stiff neck, and uncomplicated recovery. Pleurodynia was noted in one patient. Spinal fluid cell counts varied from a few cells to nearly 3000 with three-fourths of the counts between 100 and 500. Greater than 50% of the cells were polymorphonuclear cells in five of the cases. The age range was from five to 35 years with half the patients 15 years or older.

The onset of illness in the first patient from whom Coxsackie B-5 was recovered was in late June, 11 days after she had visited the lower Peninsula area at the height of a sharp outbreak of aseptic meningitis there. Minor illnesses were reported in her immediate family, and a nephew and his father subsequently developed aseptic meningitis. No virus was recovered from specimens from these two patients.

DISCUSSION

Viral meningitis may be due to a variety of immunotypes of polio, Coxsackie, ECHO (Enteric Cytopathogenic Human Orphan) or other viruses but a single type may predominate in a given area. Coxsackie B-5 was not encountered in Minnesota prior to the epidemic in 1957, but in that year was responsible for large outbreaks in the mid-west.^{3,4,7}

In 1957, Curnen *et al*⁸ recovered B-5 from 96 of

227 patients with aseptic meningitis in North Carolina and estimated that approximately 10,000 inhabitants of Durham County suffered some form of acute illness during the period of the B-5 meningitis epidemic. Curnen concluded that Cocksackie infection and associated disease were widely distributed in central and eastern North Carolina during the summer of 1957 and that widespread disease with this virus was a new experience for that area. McLean *et al*⁹ reported epidemic spread of Cocksackie in Toronto in 1957.

Thus, the recently recognized ability of Cocksackie B-5 to produce epidemics of aseptic meningitis, its recovery in 25% of our cases, its recovery from a patient exposed to the outbreak of disease in the lower Peninsula, and its role in producing extensive disease in our neighboring state indicate that this virus contributed to the increased incidence of aseptic meningitis in Virginia in 1957.

The syndrome of aseptic meningitis has been the most striking feature of outbreaks of Cocksackie B-5 infection, but Rubin *et al*⁴ stressed the broad spectrum of illness noted in their study. Chest pain occurred in 19% of their hospitalized patients who were 20 years of age or older and family surveys revealed minor illnesses consisting of low grade fever, headache, nausea, sore throat and other less frequent symptoms. In addition, Weinstein¹⁰ suggested that Cocksackie may have been responsible for a case of pericarditis. McLean *et al*⁹ have recently reported the isolation of Cocksackie B-5 from four patients with pericarditis (ages 4-11) and nine children with pleurodynia (ages 8-13 years). Although this virus is only one of approximately 50 serologically distinct members of the Enteroviruses (polio, Cocksackie and ECHO groups), it has produced extensive disease and has been associated with diverse clinical illnesses in recent years.

SUMMARY

Since 1956 Cocksackie B-5 has been associated with epidemic aseptic meningitis, acute benign peri-

carditis, pleurodynia, and non-specific febrile illnesses. The virus was isolated from 12 cases of aseptic meningitis at the Medical College of Virginia and probably contributed to the frequent cases reported in the State in 1957.

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Cancer of the Esophagus

The Case for Wider Resections

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CANCER OF THE ESOPHAGUS remained completely outside the realm of surgical treatment until 1913 when Torek¹ reported the first subtotal esophagectomy. Since that time, a great many procedures, variations in technique, etc., have been devised to surgically attack this inaccessible structure. The first large series of esophageal resections with anastomosis was reported by Ohsawa in 1933, but these were all distal esophageal lesions. Adams and Phemister performed a pioneering task in esophageal surgery and are credited with the first successful distal esophagectomy and esophagogastrostomy in the United States in 1938.² Garlock in 1944³ performed the first successful resection for a mid-esophageal cancer. Many surgeons have contributed to our knowledge and technique since then.

This disease occurs most commonly at the natural points of constriction—both extremities and the region of the aortic arch. Roughly, upper third—20%, middle third—37%, lower third—43%. These occur mostly in males, but they occur in females especially in the proximal esophagus.

Pathologically these tumors are usually poorly differentiated epidermoid carcinomas. Occasionally an adenocarcinoma occurs at the distal end. These lesions tend to spread widely—both laterally and longitudinally in the esophagus. Periesophageal structures may be involved early, and symptoms may be first associated with these extra esophageal extensions. In the upper third, the trachea, recurrent laryngeal nerve and great vessels may be invaded. In the mid-portion, there may be invasion of the left bronchus, vertebral bodies, azygous system, pleura and aorta. In the lower third the pericardium, phrenic nerve and diaphragm may be involved. The submucosal spread of epidermoid carcinoma of the esophagus is notorious. It has been emphasized that a wide dissection both proximally and distally is therefore strongly indicated.⁵

The symptoms are notoriously late in relationship to the development and spread of the tumor. Dysphagia of course is the chief clinical complaint, and pain is late in occurrence and of bad prognostic significance. Diagnosis depends on esophagoscopy

and biopsy with barium or lipiodal swallows. Often these patients will first present with almost complete esophageal obstruction. This means that reverse peristalsis can be seen fluoroscopically. Differential diagnosis is not difficult. Occasionally a Plummer-Vinson syndrome is confused, but this occurs in females with associated glossitis, split nails, anemia and achlorhydria. Cardiospasm may be easily confused, for often distal esophageal cancers have associated cardiospasm. Repeated esophagoscopy usually decides this issue.

The selection of patients for resection is difficult and requires good judgment. Certainly the fact that in many large series of cases less than 5% survive five years after surgery would indicate that this formidable operation should not be lightly entered into.⁶ The inability to swallow alone makes some sort of by-pass justifiable in most cases, since this symptom with its associated hyper-salivation makes life intolerable. In general, obvious signs of distal and regional metastasis mitigate against surgery. In this instance treatment must be based on individual experiences and ranges from attempts at esophageal dilatation to simple gastrostomy. Operability for esophageal cancer includes, therefore, most cases without evidence of regional or distal spread, and in whom decent palliation if not curability can be predicted. Attempts must be made to rule out spread of the cancer and should include:

1. Prescalene biopsy (occasionally a palpable inferior deep cervical chain node—Virchow's node is present).
2. Laryngoscopy to determine the status of the recurrent laryngeal nerve.
3. X-ray of anterior surfaces of the thoracic vertebrae.
4. Liver examination—both palpation and a brief survey of function with BSP alkaline phosphatase and prothrombin time.
5. Bronchoscopy to determine fixation of the carina, tracheal or bronchial extension, etc.

Marked weight loss and inanition are not contraindications to surgery. Pain, however, is of bad prognostic significance.

CASE REPORT

JF—63 year old white female. Patient had dysphagia for approximately four to six months, progressive in nature ending with almost complete esophageal obstruction. Admission to the hospital was precipitated by inability to swallow solid foods. (Figs. A & B)



Fig. A—Apparently well localized esophageal carcinoma prior to resection.

The patient had lost approximately 15 to 20 pounds during the previous month but had experienced no pain.

Past history and review of systems were non-contributory. Patient had seven children and no history of other significant medical diseases.

Physical examination revealed a well developed but emaciated elderly white female appearing chronically ill. Vital signs were normal. Physical examination was within normal limits except for the slight emaciation. The lungs were clear to percussion and auscultation. The liver was palpated down approximately one finger breadth, was smooth and not tender.

Chest x-ray, barium swallow, and fluoroscopy were performed and there was found to be an ob-

structing organic lesion in the distal third of the esophagus.

Laboratory studies revealed no abnormalities. Electrolytes and chemistries were within normal limits. The NPN was 33.

Esophagoscopy revealed a friable large bulky mass 36 cm. from the incisors. Biopsy report was epidermoid carcinoma.



Fig. B—Same patient as in Figure A—following resection of the esophageal carcinoma and esophago-gastrotomy. All lymph nodes negative for metastatic carcinoma but the patient developed recurrence at the anastomatic site one year postoperatively.

After adequate hydration, and transfusion, the patient was operated upon on 8/15/57. At the time of operation the tumor appeared to be well localized to the distal third of the esophagus and a distal esophagectomy and esophagogastrostomy was performed with anastomosis underneath the arch of the aorta.

Post-operative recovery was uneventful, swallowing of solids was almost immediately possible and discharge from the hospital occurred within two weeks.

It was felt that a curable resection had been performed because there was no peri-esophageal nodes present, no gross extension into the lesser sac, and

the tumor had not invaded the muscularis of the esophagus.

The pathology report revealed epidermoid carcinoma without evidence of lymphatic extension or presence of tumor cells in the resected end of the specimen.

This patient was discharged without post-operative complications and returned frequently for visits as an out-patient. She is now one year post-operative. Her course has been progressively downhill, however, and she has clinical evidence of recurrence with weight loss and return of dysphagia.

This patient has been lost to follow up, but it would seem that a recurrence of the tumor had occurred and, unfortunately, re-evaluation to rule out stenosis of the anastomotic junction has not been possible. It is probable that a wider resection above and below the esophageal lesion would have been wise and would have obviated the possibility of a local recurrence.

This case is presented to illustrate the fact that extensive involvement of the submucosal and peri-esophageal lymphatics may exist despite a grossly well localized tumor mass. It is true that many patients with microscopic evidence of carcinoma present in the cut end of the esophageal specimen are alive. However, attempts should never-the-less be made at wider, more adequate esophageal en-bloc resections when and where cases of potentially curable esophageal cancers are found.

PREOPERATIVE EVALUATION

The preoperative management, as in all surgery is of vital importance and includes three considerations:

1. Adequate hydration and improvement of nutrition. This may be done either by passage of a feeding tube (if possible) and high protein, high caloric diet or by the intravenous route. Usually a hypochromic anemia of rather severe degree exists, and must be treated with multiple transfusions. Blood volume determinations are a great aid in this respect.

2. Medical evaluation of the patient with emphasis on the cardiovascular and renal status. Blood urea, and P. S. P. determinations are important base line screening tests. The cardiac status should be fully understood by means of electrocardiograms, evidence of pronounced arteriosclerosis, venous pressure and circulation time determinations. Digitalization is done only if there is evidence of failure.

3. Preoperative consideration of the type of sur-

gical procedure and surgical approach which best suits the patient.

CHOICE OF OPERATION FOR ESOPHAGEAL CANCER

Mid-esophageal lesions refer to those cancers occurring at or just below the level of the aortic arch. In these cases a left thoracic approach means that a difficult dissection behind the arch may be required to free the lesion. Usually an ante-aortic esophageal gastrostomy or esophago-jejunostomy as described by Allison⁷ is done for these middle third lesions. The surgeon must clearly decide beforehand (insofar as is possible) whether he should use the left-sided approach or whether a right-sided approach would be more satisfactory. In general, middle third lesions are more easily approached from the right side, and if a jejunal loop is to be used in the Roux Y fashion, a separate left abdominal incision is made. Both Lewis⁸ and MacManus⁹ have emphasized this reasonable viewpoint. Certainly the goal of the surgeon should be the adequate resection of the lesion, and a struggle from the left side is of no value if it jeopardizes in any way this ideal. Usually a lesion below the aortic arch can be resected from the left side and an esophago-gastrostomy performed. The stomach must be mobilized—the vasa brevia ligated and divided, the gastro epiploic arch carefully preserved and the left gastric artery divided at its take-off from the celiac axis. The gastrohepatic ligament is then divided down to the pylorus and the stomach transected at the desired level (usually upper-third). If the lesser sac contains tumor, the spleen, tail of the pancreas, and associated lymph nodes should be removed. The stomach is closed and brought into the chest. After adequate mobilization, the stomach can easily be brought up to the level of the aortic arch. It is emphasized that the esophagus behind the arch has a poor blood supply and anastomosis should be made in the region above the arch which is well supplied by inferior thyroid vessels. If the tumor invades the stomach a wide gastric resection must be done and an esophago-jejunostomy performed. Usually in a high lying middle third lesion a Roux Y can be anticipated and a right thoracic left abdominal approach planned. Rienhoff¹⁰ used a two-stage attack—first creating his Jejunal Roux Y and one or two weeks later performing the esophagectomy and jejunal-esophageal anastomosis. This has the obvious defect of performing the abdominal stage before adequate palpation and decision regarding operability of the esophageal tumor can be made. Recently, there has been emphasis by

esophageal surgeons on wider and more radical esophageal resections for carcinoma of the esophagus.⁴ The original resection of Torek was wide in that the entire intra-thoracic esophagus was resected, leaving the cervical portion to be brought out as a cervical esophagostomy. This was done, not because of a knowledge of the anatomic submucosal extension but because of a lack of knowledge of methods and outcome of esophago-gastrostomy or selected esophago-segmental intestinal anastomoses. No attempt was made to resect esophageal lymph nodes. Today there is adequate knowledge to perform wide esophageal resections, extensive node dissections, and safely mobilize and bring up the viable preferred segment of intestine for intra-thoracic anastomosis. This knowledge and its application should gradually change the discouraging survival rate statistics and provide adequate deglutition function as well. For this reason, the following outline of preferred procedures is presented in an attempt to standardize the surgical approach to this discouraging problem:

1. Operable low-third carcinomas should be treated by a left thoracotomy with upper-third gastrectomy and esophageal resection at a level above the aortic arch. An ante-aortic esophago-gastrostomy, Roux Y jejunostomy, or interposed right or transverse colon anastomosis should be performed. Staging is done at the discretion of the surgeon. Wide lymph node dissection is urged with removal of all peri-esophageal fat and lymphatic tissue in an en-bloc fashion as well as exploration of the lesser sac and removal of lymphatics in the region of the celiac axis.

2. Middle third lesions require a right thoracotomy and resection of the entire esophagus to the level of the thoracic inlet. A cervical esophagostomy should then be established and a staged abdominal Roux Y or colon interposition procedure be performed in two weeks. Again retrogastric exploration and lymph node dissection in the region of the celiac axis should be performed. A third stage may be necessary to complete a cervical esophageal anastomosis with the desired intestinal interposed segment within the thorax.

3. Cervical esophageal lesions do not enter this discussion, but seldom deserve consideration for wide resection. The extremely poor survival rate for these lesions often mitigates against extensive surgery, since total laryngectomies and bilateral neck dissections often are indicated. Reconstitution of the pharynx with an intestinal anastomosis is hazardous and poor in function, leaving a patient unable to

swallow, often with a draining pharyngostome, and facing a miserable existence with added poor prognosis. Individualization of patients may however urge the surgeon to attempt a curative procedure. The Wookey procedure¹¹ for cervical esophageal carcinomas is not an adequate cancer operation and should be performed only where palliation is the goal. The Nagus plastic tube procedure¹² for hypopharyngeal cancers is similarly used only for palliation and would seem to have few indications.

4. Unresectable cancers of the thoracic esophagus located at or below the aortic arch should be treated with a by-pass procedure only, without heroic attempts to remove the tumor mass. By-pass here is best performed by the esophago-jejunostomy method previously emphasized by Allison.¹³

Occasionally a procedure other than I have described is performed. For the poor risk patient, Berman¹⁴ has employed a plastic tube reconstruction. Popular for a while were extra-thoracic esophago-plasties. These included the antethoracic subcutaneous esophago-jejunostomy popularized in 1944 by Yudin¹⁵ and more recently by Ravitch. The advantage of this procedure is the fact that breakdown of the anastomosis between jejunum and esophagus drains subcutaneously and does not cause fatal mediastinitis. A similar extra-thoracic procedure was described by Robertson and Sargeant¹⁶ in 1950 as a substernal esophago-jejunostomy.

These procedures are rather infrequently done for cancer. Esophagitis with stricture, atresia, etc., provide a stronger indication for extra-thoracic esophageal reconstructive procedures than carcinoma.

SUMMARY

1. A discussion of carcinoma of the esophagus with emphasis on the lateral and extensive submucosal spread has been made.

2. The frequent occurrence of epidermoid carcinomas at the anastomosis suggests that wider esophageal resections with en-bloc dissection of the periesophageal fat and lymphatic tissue is strongly indicated where curability is attempted.

3. A brief outline is made of the most desirable procedures for both the middle and lower-third esophageal carcinomas.

4. A case is presented which demonstrates the probable recurrence of esophageal carcinoma at the suture line. This indicates inadequate initial resection and emphasizes the need for more radical surgery where a "cure" is hoped for.

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New Drug for Parkinsonism

A new drug has been found to be of "positive value" in the treatment of Parkinson's disease, or "shaking palsy," according to two New York doctors. The drug is chlorphenoxamine hydrochloride, a derivative of diphenhydramine (Benadryl) hydrochloride, which is an antihistaminic and an anti-spasmodic. Chlorphenoxamine is especially useful for the relief of muscular rigidity, loss of motor function, fatigue, depression, and weakness, all symptoms of Parkinson's disease. It is less effective against tremor, the most outstanding symptom of the disease. However, it provides the patient with more energy and strength, greater freedom of motion and longer duration of activity than most current remedies, Drs. Lewis J. Doshay and Kate Constable of Columbia University said in the May 2 Journal of the American Medical Association.

Chlorphenoxamine is "a valuable addition to the

armamentarium of drugs" for use in patients with Parkinson's disease. Most patients with Parkinsonism need more than one drug to control all the symptoms of the disease, and chlorphenoxamine can be combined with other drugs that are effective against tremor.

The doctors noted that the side effects of the drug are minimal and that it does not appear to lose its effect after the patient has been using it for some months. The drug was given to 161 patients by the New York doctors and 53 per cent were benefited.

"Experience has shown that if a new drug provides 30 per cent of patients greater benefits than they were able to obtain from available compounds, it has clinical merit." Chlorphenoxamine, with its record of benefiting 53 per cent, is a worthy addition to the long list of drugs now available for the treatment of Parkinsonism.

Altered Brain Function and Hyaline Membrane Formation

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THOUGH a large number of papers have been written on the subject of "Hyaline Membrane Disease" and "Hyaline Membrane Syndrome" and a mass of data has been accumulated, no agreement as to whether this condition represents a distinct and separate entity has been reached. For these reasons Potter's¹ term "Resorption Atelectasis with Hyaline Membrane Formation" seems preferable since it is descriptive and non-committal. In essence, it described the process without singling out the condition as a separate disease entity. Gruenwald² was even more emphatic and labeled the hyaline membrane as the "eosinophilic red herring". We would not like to go so far as Dr. Gruenwald since, though it may be a slightly dried out herring, this fish still has a little brain food in it.

This discussion will begin with a series of questions. When and under what conditions does this syndrome occur? Is there a single common denominator? Are there a series of necessary variables? Can we arrive at a clear picture of the pathological process from the information already available?

Many of these questions can be answered now, though additional work will be necessary to prove some parts of the hypothesis and much work is still to be done in order to throw light on other supposedly etiologically related conditions, specifically mental retardation or deficiency. Gruenwald² has answered the first question. Three groups of infants appear to dominate in this syndrome: premature, those showing evidence of intrauterine aspiration, and mature babies—either delivered by Cesarean section or delivered from diabetic mothers. As Gruenwald stated, "In most instances cyanosis or retractions are noted shortly after birth. It is thus possible, though not established, that the disease has some relation to perinatal distress."

Only two common factors seem to be present in all cases of hyaline membrane formation, whether in the neonatal period, adult or experimental production, providing those experimental cases produced

by injection of plasma into the lungs are omitted: (1) there is a sufficient increase of capillary permeability in the lung as to allow protein rich edematous fluid to escape into the alveoli with insufficient fibrin to form a clot, and (2) a set of circumstances which allows part of the fluid component to be removed via resorption by the alveolar capillary bed and/or surface vaporization. A study of many stages of the dehydrating process, particularly in the respiratory bronchioles, reveals both mechanisms to be active, as evidenced by the increased surface eosinophilia, as one would note in the surface hardening of a gelatine block.

The atelectasis which forms such an important part of the histological picture of this syndrome is not a constant finding in hyaline membrane formation in those conditions where they occur in adults, although it may well account for some of the rapidly shifting areas of consolidation as seen by roentgenograms in cases of so-called "virus pneumonia". Neither has atelectasis been constantly present in the experimental production of hyaline membranes. The inconsistency in which atelectasis was found in the work of De and Anderson³ is believed to be due to allowing the animals to survive until part of them had passed the stage of atelectasis and hyaline membranes, as guinea pigs, subjected to 15% CO₂ if sacrificed at two and one-half days show both atelectasis and hyaline membrane formation.* What are the factors concerned with the production of atelectasis? In those cases of atelectasis past the newborn period, atelectasis results from resorption of fluid or air from alveoli beyond partially or totally obstructed bronchioles. Another means is the lack of negative pressure which can be caused by external pressure on the lung. Still a third mechanism is an improper innervation of the muscles of the thoracic cage and diaphragm or muscle weakness. In the newborn period a fourth factor, the persistence of primary atelectasis, must be considered.

Of these, only the question of incoordination of intercostal and diaphragmatic innervation appears

* Unpublished data.

to need serious consideration plus the partial obstruction of the bronchioles by hyaline membranes. Miller⁴ has shown that there is a lack of coordination of the diaphragmatic and intercostal component of the respiratory movement. He demonstrated that there was first an intercostal movement with a delayed diaphragmatic movement creating a rocking motion, causing the marked retraction of the chest during the diaphragmatic movement. Miller has produced a picture similar to resorption atelectasis with hyaline membrane formation in newborn puppies by sectioning the vagus nerves. He postulated that the defect was due to the faulty reflex innervation of the phrenic nerve.

The initial outpouring of fluid into the alveoli, which admittedly can be due to any of the various agents or conditions that may influence capillary permeability, has been largely attributed to hypoxia, too much oxygen, heart failure, hormonal imbalance, electrolyte disorder, or some combination of this group.

It has been suggested that the pulmonary edema was "caused or aggravated by anoxic damage to pulmonary capillaries".² This seems an unnecessary assumption, since pulmonary edema and hyaline membrane formation is the classical lung picture seen in oxygen intoxication when used at levels far below those pressures which interfere with the CO₂ exchange by preventing sufficient reduced hemoglobin to carry CO₂ or the direct toxic action on the respiratory enzyme system.^{5,6} This mechanism is still unexplained, although the possibility of intracellular CO₂ retention has been suggested.

Burns et al⁵ have shown that ACTH and high estrogen levels had an adverse effect on the animals subjected to oxygen and under certain of the situations where this condition is seen, abnormal hormonal levels do exist and more investigation must be conducted to clarify the hormonal relationship. Lynch's⁷ contention of heart failure has been largely discounted since all newborn infants exhibit transitory right sided heart enlargement in the first two weeks of life, as demonstrated by Lind et al.⁸

If none of the present theories offers a satisfactory explanation, what is known or may be postulated to account for some, if not all, of the cases of resorption atelectasis, with or without hyaline membrane formation, in the newborn? By using the information already available, though not previously applied to this subject, an explanation can be offered: we are considering a young animal with a poorly developed central nervous system. This animal cannot

get up and run, it cannot feed itself like an adult, it does not even have a metabolic pattern like an adult. The failure of those writing in the field of neuropathology to use this concept has created the chaotic situation which is encountered when one tries to evaluate the work on the effects of hypoxia on the newborn. It has been clearly shown that the oxygen and glucose consumption of the newborn's brain is almost the reverse of that seen in the adult.^{9,10} In the adult the brain follows a rostral to caudal decline whereas in the newborn the spinal cord has the highest metabolic rate and the cerebral cortex the lowest metabolic rate. This changes at different times in development and is not the same in all species at birth, being dependent upon the degree of maturity of the animal at the time of delivery. Herein lies the defect in the interpretation of the beautiful work of Windle and Becker¹¹ on hypoxia, since they chose guinea pigs which have nearly an adult brain metabolic pattern at birth.

Where does this fit into our discussion of hyaline membrane formation? Three groups of infants appear dominant in this syndrome: prematures, those showing evidence of intrauterine aspiration, and mature babies, either delivered by Cesarean section or from diabetic mothers. Those showing evidence of intrauterine aspiration can be considered as having some interference with oxygen, since oxygen deficiency is one of the major stimuli for initiation of active respiratory effort on the part of the fetus, as opposed to the shallow, passive, respiratory movements of a healthy, well oxygenated fetus in utero.

In the infant delivered from a diabetic mother, one might expect an over secretion of insulin with resulting hypoglycemia, which, as far as the nervous system is concerned, would lead to identical changes as would oxygen lack.¹² The diabetic child, in addition to having an unstable blood sugar,² frequently is premature and over-sized, offering not only increased difficulty with labor, but also a higher incidence of Cesarean section. Even those infants judged mature by weight may be premature when evaluated by length of gestation. In addition, they may have other hormonal imbalance.

Miller has shown that the premature newborn does not have the same control over the respiratory activity as the full term infant and that it responds differently to anoxia. Whether this is related to the anaerobic metabolic activity shown to be present in the more immature brains by Himwich,⁹ or due to different degrees of development is not settled. In the premature any manifestation of hypoxia

should be more pronounced in the more caudal portion of the brain, the exact level would be dependent on the degree of maturity and there has not been a sufficient number of humans examined to give us that information at the present time. From the clinical side, Miller indicates that some change is taking place in the respiratory center since certain respiratory patterns were related to mortality, though specific correlation with hyaline membrane formation was not made.

The major defect does not seem to be in the respiratory center which is represented as a poorly defined area in the tegmentum of the pons. This interpretation is supported by Lynch.⁷ His work also points clearly to the role of the vagus nerve whose nuclei are located in a more caudal position in the area which would be most subjected to any hypoxic or acapnic effects, thus interrupting the vagal-phrenic reflex at a central rather than a periphery level as suggested by Miller. It is even theoretically possible to produce the disturbance at the phrenic level of the cervical cord.

A lesion at the level of the brain stem could also explain the edema, since capillary permeability is partially under the control of the autonomic nervous system. Cameron³ produced death from pulmonary edema in rabbits and rats by injecting fibrin into the basal cisterna. The edema could be prevented by atropine and bilateral sectioning of the vagi. This did not appear to be the result of increased intracranial pressure or changes in the pulmonary pressures. The explanation for this type of reaction is not clear and the edema could not be produced by electric stimulation of the peripheral ends of both vagi. No reference was made to the effects of electrical stimulation of the proximal ends of the vagi. The edema fluid resembled plasma and in some animals red blood cells were released without apparent morphological loss of continuity of the vessels.

Blystad¹⁴ demonstrated the presence of respiratory acidosis in cases of the hyaline membrane syndrome. Schaefer¹⁵ showed that animals, when subjected to 15% CO₂, went into pulmonary edema and that those animals which did not correct the acidosis died, whereas those animals that corrected the acidosis survived.

It is therefore postulated that the cause of the

majority of the cases of resorption atelectasis with hyaline membrane formation is the result of anoxic damage to the brain stem, resulting in pulmonary edema and a disturbed respiratory mechanism resulting in death due to generalized anoxia and acidosis; and considering the known additive effects of repetitious hypoxia, a much improved survival rate will be obtained when the treatment is directed along the line of correction of the acidosis as mentioned by Chapple¹⁶ and employing some method of providing an adequate oxygen supply to the brain, even if this has to be achieved by hypothermia as employed in one case by Stokes.¹⁷

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Argentaffinoma (Carcinoid) of the Stomach

Report of a Case

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ARGENTAFFINOMA (Carcinoids) are well recognized lesions of the appendix; however they may occur in other parts of the gastro-intestinal tract. In these latter locations they have a definite malignant potential and may be associated with the rare "malignant carcinoid syndrome". Nevertheless, cases may present evidence of prolonged local symptomatology and morphologic features which emphasize the slow development of the malignant aspects in these tumors without manifestations of the "malignant carcinoid syndrome".

The following case demonstrates the relatively benign development of a large argentaffinoma of the stomach which was treated surgically.

CASE REPORT

H. R., a 51 year old white male had gastric bleeding for fifteen years and epigastric pain for the past three to four years. During the past fifteen years, the patient has received approximately 35 units of whole blood. Surgical resection was delayed by refusal of the patient until bleeding became alarming.

On admission to Pulaski Hospital, the patient was pale. His blood pressure was 110/70 millimeters of mercury. His white blood cell count was 8,000 per cubic millimeter and his hematocrit was 15 per cent. A gastro-intestinal roentgenological examination at this time revealed two and possibly three areas of ulceration and several polypoid masses in the mid-portion of the stomach interpreted variously as blood clots or carcinoma. (Fig. 1)

The patient was given 4,000 milliliters of whole blood. An exploratory laparotomy revealed a large tumor of the distal portion of the stomach. A subtotal gastrectomy (Hoffmeister) with antecolic anastomosis and resection of the omentum with incidental appendectomy was done. No evidence of lymph node



Fig. 1—Preoperative radiograph of the stomach showing deformity by polypoid masses of a large primary argentaffinoma.

involvement or other metastasis was seen.

His post-operative course was uneventful and he left the hospital improved.

He has been followed for nine months and there is no evidence of recurrence. There has been no vomiting, hematemesis, or melena.

Pathology

The resected portion of the stomach was 15 centimeters long and 9 centimeters wide. It was grossly misshapened by a large umbilicated tumor measuring 6 centimeters by 12 centimeters. In the center of the tumor mass there was an area of ulceration measuring 3 centimeters by 2 centimeters. (Fig. 2) In addition there were two small areas of ulceration above and below this large ulcer. Although the tumor protruded into the lumen of the stomach, on cut

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section it was apparent that the tumor lay just beneath the mucosa and did not invade the mucosa.

Four lymph nodes were found in the mesentery and omentum.

Three firm masses of tissue each measuring one centimeter in greatest diameter were found, on the serosal surface of the stomach.

Grossi² gave a tabular summary of forty cases collected from the literature up to August 1956 and presented five new cases which they collected over a fifteen year period. In these cases, the tumors of fifteen were incidental findings at autopsy. In eleven cases (27.5 per cent) which showed metastases, the malignancy was of a very low grade. Most of the

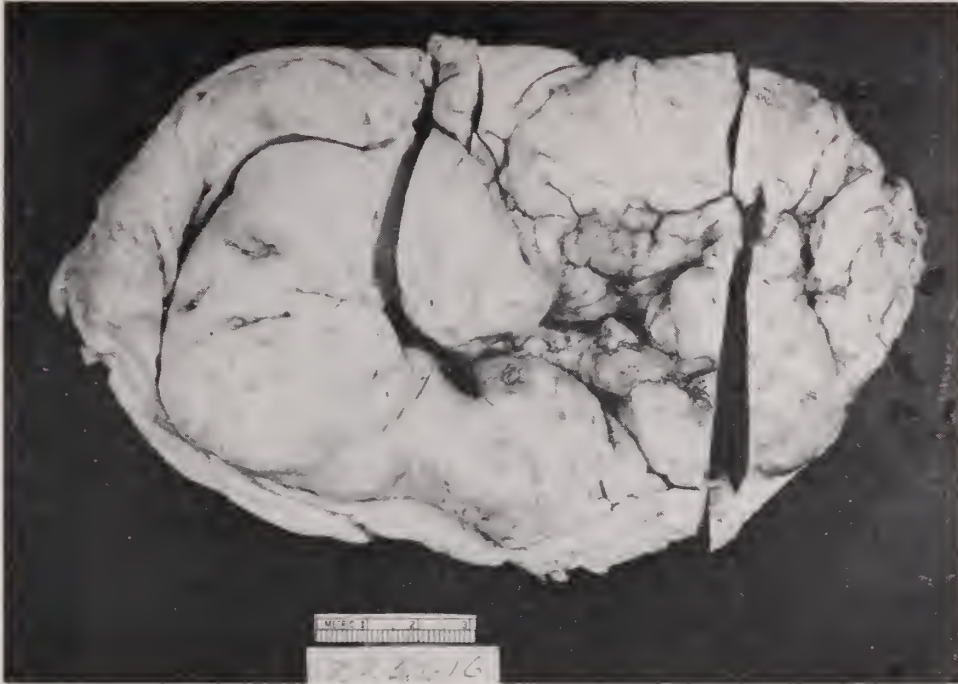


Fig. 2—Mucosal aspect of resected argentaffinoma of the stomach. Most of the surface is covered by intact gastric mucosa with only small areas of secondary ulceration.

Microscopically the tumor had the features of a carcinoid tumor. The tumor was well encapsulated and did not invade the overlying mucosa. The cells were rather large and contained a moderate amount of cytoplasm. The nuclei were moderately hyperchromatic and several mitoses were seen. The cells were arranged in cords and islands separated by a small amount of fibrous stroma. Poorly formed acini were present in scattered areas. (Fig. 3) No tumor cells were seen in any of the veins in the sections. Staining with Sudan IV showed the tumor cells to contain a large amount of lipoid material.

Examination of four lymph nodes from the omentum failed to show any evidence of lymphatic spread. The three masses of tissue found on the serosal surface of the stomach were leiomyomata.

DISCUSSION

Argentaffin tumors are rare in the stomach. The first such case was reported by Askanazy¹ in 1923 as an incidental finding at autopsy. Lattes and

patients with carcinoids of the stomach survived after local surgical resection for recorded periods of one to thirteen years. Three cases in which there was evidence of regional and distant metastases, were surviving ten, thirteen, and thirteen years respectively following surgical resection.

The name carcinoid was first applied by Oberndorfer,³ in 1907, to a type of tumor which resembled carcinoma histologically but which was apparently benign.

Gossett and Masson⁴ in 1914 demonstrated argentaffin granules in the tumor cells and postulated that the origin of these tumors is from the Kultchitzky cells near the basement membrane of the crypts of Lieberkuhn. This theory is still widely accepted as the best explanation of the origin of these tumors. The term argentaffinoma is to be preferred because the tumor cells have an affinity for silver stains and since more recent observations indicate that not all argentaffinomas are benign.

Most of the early reported argentaffinomas were

from the appendix and this is still by far the most common site for the tumor to occur, making up 58 per cent of 356 reported cases in one recent series by MacDonald.⁵ Argentaffinomas have been reported as occurring in all levels of the gastrointestinal tract below the esophagus, as bronchial adenomas⁶, and even in benign cystic teratomas of the ovary and testis.⁷

Lembeck⁸, in 1953 alluded to an interesting situa-

Since these first cases were reported, others have been described without the cardiac lesions and asthma but demonstrating an increased blood level of serotonin and increased urinary excretion of five hydroxy indol acetic acid. Fein and Knudston¹⁰ report a case of malignant carcinoid of the stomach which metastasized to the liver and produced the syndrome. The syndrome has been produced by a metastasizing bronchial adenoma.⁶

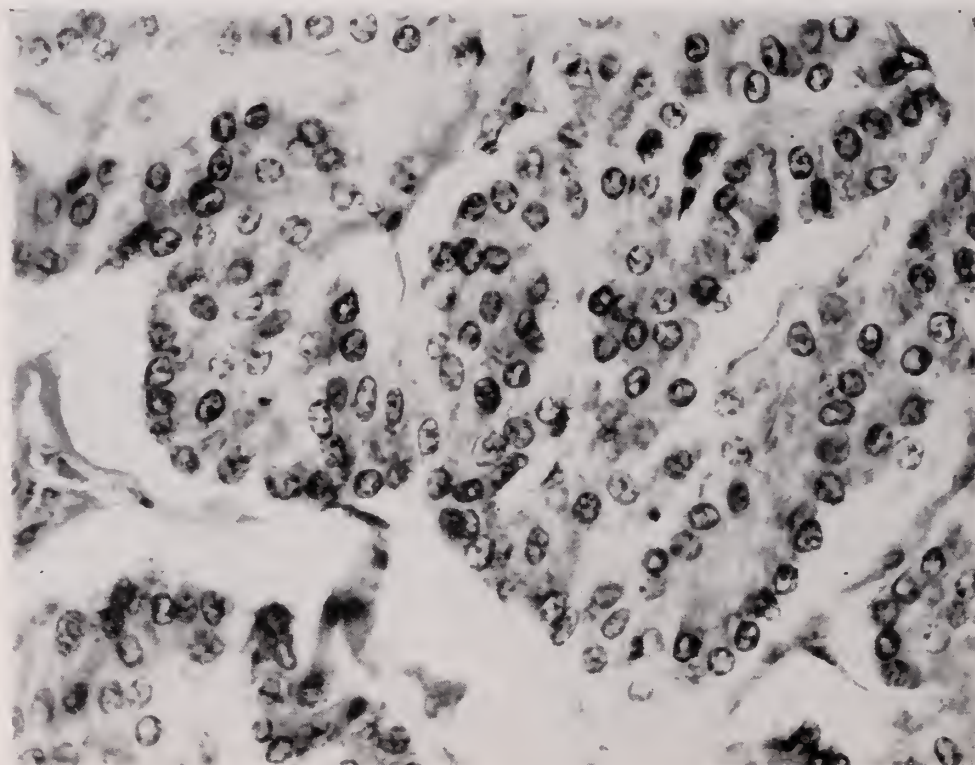


Fig. 3—Argentaffinoma (Carcinoid) of the stomach showing cords and nests of uniform cells with small round nuclei and a delicate fibrous stroma. H & E stain, 780X.

tion in which high concentrations of serotonin (5-hydroxy tryptamine) were found in a number of carcinoids. The following year Thorson et al⁹ presented sixteen cases of metastasizing carcinoid of the small intestine, all of which presented with a number of systemic signs and symptoms calling attention to a new syndrome. The common feature in the sixteen cases were: (1) carcinoid of the small intestine; (2) metastases to the liver and elsewhere; (3) valvular disease of the right heart (pulmonary stenosis and/or tricuspid regurgitation) without septal defect; (4) sudden flushing of the skin; (5) patchy cyanosis; (6) frequent watery stools; (7) asthma and (8) edema and ascites.

The secretion of serotonin is apparently responsible for the vasomotor changes in the syndrome.

SUMMARY

The case of a man with a fifteen year history of gastric bleeding is presented. Exploratory laparotomy revealed a large ulcerating tumor of the distal portions of the stomach which proved to be an argentaffinoma. There was no evidence of metastasis or of the "malignant carcinoid syndrome". The tumor was removed by partial gastrectomy.

The patient has made an uneventful recovery and is free of symptoms relative to the argentaffinoma nine months postoperatively.

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Chronic Brucellosis

"Chronic brucellosis" consists essentially of an emotional illness, a group of Johns Hopkins University researchers believe.

Brucellosis, also called Malta or undulant fever, is an infection characterized by tiredness, fever and body aches. Caused by *Brucella* organisms, it is usually acquired from cattle, hogs, sheep or goats.

The Johns Hopkins men, writing in the February Archives of Internal Medicine, published by the American Medical Association, said brucellosis is usually a self-limiting disease. Most patients are well and symptom-free within a year after the acute attack, although brucellosis is commonly considered to be a chronic disease that may persist for years. When this happens, the Johns Hopkins men believe, the condition results from emotional factors rather than physiological ones.

Of 24 patients who had had brucellosis four to six years before the study, eight were fully recovered; six had had "chronic brucellosis" for a while but were recovered, and 10 still had "chronic brucellosis."

Careful physical and laboratory examination showed that the patients with "chronic brucellosis" could not be distinguished from those who had recovered uneventfully after the acute attack. The two groups were identical with regard to severity, course, and treatment of the acute disease. No evidence of persistent infection with the *Brucella* organism could be found in the chronic patients.

However, the chronic patients continued to show physical symptoms even though there was no physiological reason for them. Their symptoms were non-specific-fatigue, headache, "nervousness" and depression—much like those appearing in neurotic persons. Psychological tests and psychiatric interviews revealed that the chronic patients had considerably

more emotional disturbance than did the recovered patients. The majority of the chronic patients appeared depressed and anxious.

Most of the chronic patients had had emotional difficulties in childhood, and had been experiencing significant stresses of some sort during the period they were acutely ill. The recovered patients had not undergone such stresses.

They concluded that emotional disturbance was "significantly more prevalent" in the chronic patients and that their "disease" was primarily emotional.

Symptomatic recovery from acute brucellosis "depends critically on the emotional state of the person at the time of acute infection or in the convalescent period. In the wake of an acute *Brucella* infection there is almost always a period of lassitude or fatigability. In the depressed patient these otherwise transient symptoms merge imperceptibly with depressive fatigue or lassitude and thus appear to be perpetuated.

"The manifestations of the patient's emotional disturbance thus become included by the patient, and often by his physician, in the syndrome of 'chronic brucellosis.'"

The reputation of brucellosis as a chronic disease supports the patient's tendency to retain his symptoms for long periods of time. In addition, "chronic brucellosis" offers a readily available explanation for any discomfort that occurs.

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X-ray Therapy of Sinusitis

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FIFTY PER CENT OF PATIENTS treated with x-ray for sinusitis will get symptomatic relief. This occurs soon after the termination of the treatment and is followed by a long period of relief.

The literature available on this subject is abundant after the first report by Osmond¹ in 1923 citing excellent results in 12 cases of acute sinusitis. The enthusiastic response to this form of treatment appears to end sharply after 1948. A review of the literature of the past 10 years shows the report of Levy² with a 10-year follow-up of 500 of the 1400 children treated for lymphadenosis and sinusitis. The paper includes an excellent bibliography of 106 references of previous reports on this subject.

RATIONALE

Roentgen rays have been widely used for the treatment of inflammatory conditions since shortly after their discovery. Experiments to determine the mode of action of x-rays in these cases have been reported since 1903, as mentioned by Desjardins.³ His paper contains many references of reviewed works originating in the American and European literature dealing with the use of radiation therapy for furuncle, carbuncle, trachoma, and other inflammatory conditions.

The rationale for the use of roentgen rays in the treatment of sinusitis rests upon experimental evidence. Butler and Woolley⁴ reported the effects of radiation in the infected mucous membranes of frontal sinuses of 12 cats. The cavities were punctured and injected with purulent culture of streptococcus. Evidence of early destruction of lymphocytes at 48 and 72 hours after irradiation of the sinuses was obtained. The thickened membrane shrank and became fibrotic after a week or more. No injury to the cilia, epithelium, or cellular elements other than the lymphocytes was noted. The relief of local pressure and pain is apparently obtained after the rapid disintegration of large numbers of leucocytes which become engulfed by phagocytic cells and are removed from the site of inflammation^{5,6} The tonus of the vessels is restored and the

swollen membrane shrinks as observed by Gabriel⁷ in 1926, depending on the amount of x-rays applied. The restoration of the normal tonus of the capillaries and restoration of a normal circulation after a period of slight increased dilatation is effected by small doses (100 r). A too large dose will increase the dilatation of the vessels and delay the restoration of normal circulation, resorption of cellular infiltrations and decompression of the mucous membranes.

INDICATIONS

Following Osmond, several authors reported the beneficial effects of roentgen therapy in patients with acute sinusitis and less satisfactory results in the chronic type.^{8,9,10} The references dealing with the treatment of chronic sinusitis are more abundant.^{11,12,13} Our results lead us to agree with Hodges¹⁴ that patients who have had symptoms for some time are apt to respond better to treatment and are also less susceptible to recurrences than patients with acute sinusitis. He does not recommend the treatment in the atrophic type of sinusitis and did not obtain good result in the chronic hyperplastic type with polypoid changes, especially if these were extensive. Levin¹⁵ also does not recommend this treatment in the acute state but is enthusiastic about the good results obtained in subacute and chronic sinusitis with hyperplastic membranes.

As Crowe¹⁶ points out, the cases of chronic infection of the paranasal sinuses are the ones resistant to antibiotic therapy as the penetration of the drugs into the abnormal chronically infected tissues is almost nil. We feel that the use of radiation therapy in these patients is indicated and justified, leaving the acute exudative cases in the hands of the specialist to be treated by other methods, such as local and antibiotic therapy. It should also be used in patients who have failed to respond to several types of treatment other than irradiation. The observation of Butler and Wooley is valid also in cases of failure, since roentgen therapy does not interfere with subsequent surgery if necessary.

Less optimistic about the use of this type of treatment is Gatewood¹⁷ whose 22 treated patients were not found to be entirely normal clinically after

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treatment. Also Kornblum is not enthusiastic and recommends it only in properly selected cases with proper technique and proper clinical supervision. He agrees that some patients are benefited by x-ray and finds definite relief in acute sinusitis, but affirms that chronic sinusitis of any variety is probably never cured regardless of the type of therapy used.

CONTRAINDICATIONS

It is better not to treat acute exudative sinusitis in patients with poor drainage of the affected paranasal cavities.⁶ Patients with hyperplastic sinusitis who have extensive polypoid changes will have no relief after radiation, this treatment is not recommended in such cases. The polyps are best removed surgically.

MATERIAL

Four hundred and sixty-six patients were treated for sinus disease between 1950 and 1957 at the x-ray department of the Johnston Memorial Clinic. Pertinent data regarding the results of therapy were obtained in 306. Most of the patients were referred for treatment by the doctors from the clinic (especially from the service of the late Dr. R. A. Morrison). Others came directly to the x-ray department for treatment. The evaluation of the results was obtained from the notes available in the treatment chart and the comments from the physician noted in the clinical charts at subsequent visits. Some patients did not return for follow-up studies.

CLINICAL FEATURES

Less than half of the patients were males. Nine were under 20 years of age and 17 were under 40. The youngest patient treated was seven and the oldest 78, the majority being over 40. The duration of the symptoms before treatment ranged between two weeks and 30 years, a large number having symptoms for only one year. Symptoms commonly found were stoppage of the nose, postural or constant drainage in the nasopharynx, headache, and tenderness over the infected cavity (the latter sign was not always correlated by the roentgen findings). Hypertrophy of the lymphoid tissue of the pharynx was also found in a part of the patients. In several patients local and antibiotic therapy was used, so these were not included in the results, as we do not know if the relief obtained was due to the antibiotic therapy or to the effect from the roentgen rays.

The treated patients had roentgen studies besides

clinical examinations and revealed positive radiographic signs of sinus disease represented by single and more commonly multiple involvement of the paranasal sinuses. The roentgen diagnosis was made by the well-known signs of diminution of air content of the cells or cavity, indistinct outline of the mucoperiosteal membrane and thickening of the mucous membrane. Hypertrophy of the nasal turbinates was a common finding in these patients. Almost all had moderate to severe involvement of the ethmoids, either alone or associated with maxillary or frontal sinusitis.

TECHNIQUE

A review of techniques used by others is out of the scope of this paper. We use Gabriel's technique at 140 K.V., 15 M.A. at 31 cm. distance, 1/4 mm. of Cu. and 1 mm. Al. (H.V.L. 0.55). Four treatments of 100 to 125 each (in air) were given in 2 weeks directed to the sinuses anteriorly. All cavities were irradiated at each treatment, using lead shields to cover the eyes, eyebrows, upper lip and mouth, upper portion of the forehead, and both sides of the face face (Fig. 1). Two lateral pharyngeal ports were



Fig. 1

treated the third week in those cases where hypertrophied lymphoid tissue was found in the nasopharynx. No more than 100 r per treatment were given to those patients having symptoms of recent onset. No immediate or late reactions were noted.

RESULTS

Out of the group of 306 patients with available data after the therapy, 186 were found to obtain prompt symptomatic relief during or at the end of the treatment. Thirty-two were also treated at the same time with local measures and antibiotics, bringing down to 154 the number of patients obtaining relief from roentgen treatment alone. This represents 50% of the original group. Over one-third of such patients were followed-up for periods of one month up to seven years (depending upon when the treatments were given) and continued asymptomatic. A better response was found in patients who had symptoms for over six months and generally over two years. Sixty had recurrence of symptoms (20%) but 10 obtained relief after a second series of treatments. Nine of the patients with recurrence also had previous local and antibiotic treatment. More recurrences were found among those patients having symptoms for less than one year. These recurrences were found at the end of one to four years after treatment in half of the cases.

In the other 60 patients roentgen therapy failed to improve their condition in spite of the fact that 16 were also treated with antibiotics and local measures, thus considering 44 cases as definite failures after roentgen treatment (15%) probably because they were not caused by infection but were of allergic origin. The most persistent symptom in these cases was headache of various localization.

DISCUSSION

There is a definite place for the use of roentgen therapy for the treatment of sinusitis. The beneficial effects of irradiation can be demonstrated clinically with prompt relief of symptoms. It is advisable to select the patients properly among those who have a subacute or chronic infectious type of sinusitis, especially in those cases where more conservative modes of treatment have failed. Patients with acute sinusitis will have less beneficial results if not properly draining, and those with extensive polypoid formation are best treated by other methods.

If symptoms recur within one-half year after completion of the treatment, a second trial is not advised as the possibilities of obtaining good results are minimized, but recurrences after that time did improve with repeated treatment. Careful shielding around the areas treated should be done with additional protection of other parts of the body.

SUMMARY

1. Four hundred and sixty-six cases of sinusitis were treated with roentgen therapy in a period of eight years. Results were evaluated in 306 patients. The technique used is described. Proper shielding and protection of the patient is emphasized.

2. Prompt relief of symptoms was found in 50% of cases. Best results were obtained in patients with chronic sinusitis with symptoms lasting over two years. Careful selection of cases is important.

Clinical and experimental data exist to prove the value of roentgen therapy in sinusitis.

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Weight-Reducing Agent Ineffective

A widely used appetite suppressant has been found to be ineffective in helping obese persons. The suppressant—phenylpropanolamine—is a common ingredient of weight-reducing drugs which are offered to the public without prescriptions. It has been estimated that about 100 million dollars is spent annually for such drugs.

The report appears in the June 27 *Journal of the American Medical Association*. Headed by Dr. Joseph F. Fazekas, Washington, D.C., the group undertook the study to determine the merits of the non-prescription drug as compared with dextro amphetamine, a prescription drug with known appetite suppressing qualities.

The authors said that any effective weight-reducing program must be administered by a physician who understands the psychological factors which are encountered by persons undergoing treatment. To control these psychological factors, the scientists selected 80 obese mentally deficient subjects for their study. The subjects were physically normal and had been residents of the institution for a number of years. Their body weight had been recorded monthly since admission. The subjects had never been under any dietary restriction and their daily food intake consisted of a well balanced diet known to contain about 3,000 calories which was well above their energy requirements.

The 80 subjects were divided into four nearly equal groups and the blind procedure was employed where neither the recipient nor the administrator knew what agent was being given.

The subjects were given one of the drugs under investigation three times a day, one hour before meals, for a period of six weeks. To make certain of their ingestion by the subjects, the drugs were given by cottage supervisors.

According to the authors, "Phenylpropanolamine, when administered in recommended doses, and even in twice the supposedly therapeutic doses, failed to effect a statistically significant reduction in weight.

"The administration of dextro amphetamine . . . was associated with a statistically significant reduction of weight. The weight loss apparently results primarily from a reduction of food intake due to a diminution of appetite."

"The results of the present investigation lend support to the concept that phenylpropanolamine does not exert a marked central nervous effect, at least insofar as appetite reduction is concerned."

The scientists concluded that in view of the many psychological and physiological factors involved, as well as the recognized increased incidence of certain diseases in the obese population, weight reduction should be supervised by physicians, particularly when drugs are used.

Torsion of a Normal Fallopian Tube Complicating Pregnancy

A Case Report

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IN 1952 Kushner and Rosenbaum¹ reviewed the literature relative to torsion of the fallopian tube complicating pregnancy and reiterated the rarity of its occurrence. They reported one case of their own.

The following is another case which occurred at the 37th week of gestation and mimicked premature separation of the placenta.

Mrs. B.M., a primagravida aged 20, was first seen in our office on April 9, 1958, when she was in her 11th week of pregnancy. Her history was not remarkable and her L.M.P. was 2/19/58. The physical examination revealed no abnormalities and the pelvic organs were within normal limits for the stated length of gestation.

In the 23rd week of pregnancy the patient noted a sanguineous stain on the tissue following urination, but examination could not reveal either the presence of blood or the cause of the earlier bleeding.

During the early hours of 11/4/58, three weeks prior to the expected date of confinement (11/26/58), the patient was seized with pain in her LLQ which became progressively worse. Examination revealed the left side of the lower uterine segment to be tender and there was some splinting of the abdominal wall. The fetal heart sounds were good. There was a slight bloody discharge. Pelvic examination revealed the cervix to be long, closed and the vertex was dipping into the pelvis. The placenta could not be localized.

A diagnosis of premature separation of the placenta was made and the patient was prepared for

Cesarean section because of the unfavorable cervix and floating vertex.

At surgery the uterus was enlarged to term gestation. The baby was presenting in LOT position with the vertex floating. The placenta showed minimal separation along one edge, which explained the slight bloody discharge prior to surgery, but not enough to explain the severity of the symptoms. Further exploration revealed the left tube to be twisted upon itself *three* complete turns. The distal half was enlarged, forming a mass approximately 6x4 cm. and appeared purplish black in color. The left ovary was elongated, suggestive of the infantile ovary. The right tube and ovary appeared normal.

A low flap cesarean section was performed and this was followed by a partial left salpingectomy. The patient had an uneventful non-morbid course and was discharged in good condition on her 6th post-operative day along with her baby.

SUMMARY

A case of torsion of a normal fallopian tube complicating pregnancy is presented.

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Typhoid Carriers

A typhoid carrier is a person who harbors typhoid organisms and discharges the bacilli from his body, most frequently in his stools. About 50 per cent of cases continue to discharge typhoid bacilli in their feces for three weeks after the onset of the disease and a small per cent continue to discharge them for three to five months. These are called convalescent carriers. A chronic carrier is a person who has not suffered from typhoid fever within the previous twelve months and who discharges the bacilli. These persons may or may not have had a clinically recognized attack of typhoid fever but are known to have discharged the organisms for at least one year. Persons who harbor the organisms without having had a clinically recognized case of typhoid fever are called healthy carriers. A healthy carrier is usually a chronic carrier. The use of antibiotics in the treatment of typhoid fever tends to mask the presence of the organisms and examination of stools to detect their presence should not be considered conclusive until specimens are taken at least ten days after the cessation of administration of these drugs.

Typhoid fever has a world-wide distribution. During the Spanish-American War both incidence and mortality were high in army camps. This led to provisions for adequate military sanitation followed by the use in 1911 of prophylactic typhoid vaccination, which was made compulsory in the same year. Improved measures for sanitation were instituted to protect civilian populations and today supervised and approved milk and water supplies together with the sanitary disposal of sewage have reduced the incidence of typhoid to a minimum. The incidence today seems to be greater in rural areas than in the cities.

An interesting fact about the development of carriers is that older persons are more likely to become carriers than children and females are more often carriers than males. The highest frequency is found in females in the 40-49 year age group. In Virginia there are 73 registered female carriers and 30 registered male carriers. The median age of the female carriers is 56 years; the oldest is 82 and the youngest is 11.

Unknown carriers are more dangerous than known carriers. The latter are recorded in health departments, are fully informed as to their condition, are given instructions regarding personal hygiene, the disposal of their body wastes, and the protection of others. Household contacts and those most closely associated with them are given typhoid vaccine with booster doses at directed intervals. Carriers are not allowed to be in occupations where they might handle food or drink of any kind. It can be readily understood that a carrier employed as a cook, a waiter, a dishwasher, a nurse, or where he might handle milk or milk products, or in bottling works is a special menace. They are kept under the continued supervision of the health departments and are visited semi-annually.

A typhoid carrier register is built up through the accumulation of information that is gradually gained by the epidemiologic investigation of all cases of typhoid fever as they develop. This includes the routine examination of stools of persons associated with the patient and the examination of the stools of food-handlers, which is required in some communities. Another source is the culture of bile from gall bladders removed in cholecystectomies. A typhoid carrier must report to the health department if he moves to a jurisdiction beyond that of the supervising health director. A transfer is then sent to the health department in the area of the new residence.

It is almost an adage to say that "once a typhoid carrier, always a typhoid carrier." No drug or antibiotic has been found which will cure the chronic carrier state. In some instances the focus of infection may be eliminated by removal of the gall bladder but even this is not a sure cure. Cholecystectomy should be advised only after careful determination of the individual's physical condition, including the recovery of typhoid bacilli from bile obtained in a preliminary duodenal specimen.

Typhoid carriers do not discharge the bacilli day after day but intermittently and irregularly. Consequently, repeated specimens must be examined to determine their status. The minimum criteria for release from carrier supervision are:

1. For temporary carriers, a minimum of three consecutive negative stool cultures taken one week apart and at least 10 days after cessation of antibiotic therapy.
2. For permanent carriers, a minimum of six consecutive negative stool cultures taken at least one month apart, the last two of which must be validated by collection of the specimen in a hospital or otherwise directly supervised. All specimens are to be collected at least 10 days after cessation of antibiotic therapy.

In releasing former biliary carriers the final two stool cultures may be validated by the giving of lycopodium; or a negative bile culture may be substituted for such validation.

Virginia started the year 1958 with 98 typhoid carriers registered in the health departments of 46 counties and six cities. During the year nine were added. At the end of 1958 two carriers had been removed by death and two had been lost, "unable to locate," leaving a total of 103 typhoid carriers on the books at the start of 1959. These are under the supervision of the health departments of 47 counties and seven cities.

During the year 1958 forty-three cases of typhoid fever were reported from 20 counties and four cities. One of these was diagnosed by clinical symptoms only, stool and blood cultures were negative. Typhoid is a seasonal disease, being at a minimum during the winter and spring months and at a peak in the late summer and early fall. The distribution in Virginia in 1958 followed this pattern, generally speaking, except that the third highest number of cases per month, four, occurred in January, June and November. The peak was reached in August, eleven cases, with a drop to seven in September. It should be emphasized that typhoid fever was present in Virginia in every month of the calendar year of 1958. There is no carrier listed in three of the counties which reported cases of typhoid fever but in one of these the patient had been infected as a result of exposure to a carrier among a group of migratory farm workers. Twenty of the 43 cases resulted from infection by carriers, some of whom were uncovered as a result of investigating active cases. Five were infected by mothers, one by the father, two by a brother, two by a grandmother, five by a grandfather, one by a father-in-law, one by a boarder, two by friends of the family, one by an employer. In addition, one case was probably the result of infection by a carrier but this was not proved.

The carrier who infected four of her children is a fair example of the "headaches" suffered by a county health department. This carrier had been discovered by a county health department, had been informed of her condition, and had been told of the danger of spread of the disease to others. She had been instructed how to prevent spreading typhoid to others, particularly to members of her family, and had been told to bring her children to the county health department for typhoid vaccine. She did not bring the children for their immunizations and a follow-up visit was made to the home. The woman had moved and had taken her family with her. The family then residing in this house told the investigator that they did not know where she had gone. After the four children developed typhoid fever in a nearby city it was discovered that they were the children of the "lost" typhoid carrier. It was also learned that the family living in the house that had been her home in the country were near relatives and they did know that this woman had moved to the city and that she made rather frequent visits to them. The rediscovery came about through the illness of her children which might have been prevented. Since that time she has had her gall bladder removed and is under supervision and examination to determine if she has been cured as a carrier. She has had a few negative stools, but not enough to warrant her release as a chronic typhoid carrier. Such difficulties are not brought about by the willful desire of people to be non-cooperative, but rather because of their ignorance and reticence on the part of certain individuals who are innately suspicious of questions, regardless of their source. It was fortunate that no deaths resulted from the temporary loss of this carrier.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	June 1959	June 1958	Jan.- June 1959	Jan.- June 1958
Brucellosis -----	4	4	14	11
Diphtheria -----	2	1	6	13
Hepatitis -----	18	14	207	139
Measles -----	1502	2914	13672	19412
Meningococcal Infections -----	5	4	56	46
Meningitis (Other) -----	16	20	119	103
Poliomyelitis -----	8	6	16	11
Rabies (In Animals) -----	13	11	99	139
Rocky Mountain Spotted Fever -----	3	9	11	10
Streptococcal Infections -----	399	427	5947	4399
Tularemia -----	2	3	9	18
Typhoid Fever -----	1	4	11	14

Mental Health

Present Status of Mental Hygiene Clinics in Virginia and Some Possible Future Trends

Repeated efforts to establish Child Guidance and Mental Hygiene Clinics were made in Virginia in the period between 1923 and 1942 by the Virginia Department of Welfare aided by grants from the Commonwealth Fund. There was very little success. Only one or two of these Clinics survived.

The clinic system, in its present form, actually began with permissive legislation in 1942 when the General Assembly authorized the State Hospital Board "to establish and maintain in connection with hospitals under its control, outpatient mental hygiene clinics for the purpose of advising, counseling, directing and otherwise treating patients on furlough". It was obviously intended from the wording of the act that these clinics should be primarily "after-care" clinics rather than true mental hygiene clinics (which are preventive in nature). The same act went on to say, however, that the Board *may* extend its clinic services to former patients . . . and to such other persons in need of psychiatric advice, counsel and guidance as may be referred to it by a physician or by a public health or welfare agency.

Subsequent acts directed the State Hospital Board "to seek and encourage cooperation and active participation of communities, organizations, agencies and individuals in the effort to establish and maintain mental health programs" and later ordered the Board "to direct the development of long-range programs and plans with respect to mental hygiene—to the end that these services may grow in a steady coordinated manner."

Because of World War II there were civilian shortages of professionals trained in mental health work and no funds were appropriated for clinic activities. Therefore, the present clinic program did not actually begin until 1946.

The National Mental Health Act in that year made sizeable sums of Federal money available to the States for the promotion and support of community mental health activities.

Simultaneously a public awareness of the size and

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importance of the problem of mental health—a product of the publicity psychiatry received during the war because of rejection of inductees and high psychiatric casualty rates—caused many local communities to request that clinics be established.

The General Assembly, responsive to public demand, began appropriating money to match local and federal money for the support of clinics. As a result, Virginia has, at the present time, in little more than a decade, one of the best Mental Hygiene Clinic Systems in the entire country.

The amount of money available from Federal grants has been variable and is a relatively small and diminishing part of the total budget. Over a five year period it has shrunk from nearly 17% to less than 12½%. The total clinic budget from all sources, meanwhile, has more than doubled.

In 1954 the total budget for clinic services was \$316,400.00. The 1959 budget was for more than \$790,000.00.

The State of Virginia's percentage contribution has remained at 45% during this phenomenal growth. This means that in 1954 the State appropriated \$137,000.00 from the general fund, but has more than doubled the amount in the five year period and now appropriates over \$390,000.00 from the general fund.

Local contributions plus fees and Federal grants have jumped from \$127,000.00 to nearly \$400,000.00 in the same period.

To summarize—The State matches local funds, and Federal appropriations, on roughly a 50-50 basis—a diminishing Federal percentage is compensated by a growing local and State contribution. The total funds have doubled in a five year period and are growing.

The Federal grants, like State funds, are made on a matching basis. Our favorable ranking, higher than surrounding states, is due to the fact that State and local contributions are relatively high in the United States.

In many ways these figures speak for themselves. The taxpayer, speaking through his Congressman in Washington and through his General Assemblyman in Richmond and through his elected officials in county and city governments, believes in mental hygiene and is willing to pay for it.

On the basis of man hours spent in treatment and

other services per 100,000 population, Virginia is second only to Louisiana in the entire Southeast Region of the United States. It stands 19th in man hours spent per 100,000 population in the United States on the basis of the latest figures released by the National Institute of Mental Health.

Forty-eight of the 98 (nearly half) counties in Virginia contribute and therefore, participate in its services. More than 75% of the population of Virginia live in these 48 counties—leaving only the sparsely populated mountainous or rural areas (and the Eastern shore) without easily available mental hygiene clinic coverage.

New York State boasts that 85% of their population has mental hygiene clinic services available, but must admit that only 30% of their counties receive coverage. From the standpoint of geographical coverage Virginia thus has a much better system than New York. The reason that New York has a better "population coverage" is obviously the higher density of their population in Manhattan where the concentration of patients and professional personnel makes the job much simpler.

The question frequently asked of our department is "how many clinics does Virginia have?" There are 22 listed in our directory, but such a simple answer is misleading since many clinics employ more than a single team or work more than 40 hours, whereas, others are open only one or two days a week.

Making a computation based on a 40-hour week, the Department employs psychiatric services equivalent to 24 full time psychiatrists. Each of these psychiatrists is complemented by an equivalent amount of psychologists' time and more than an equal amount of time by social workers.

At present there are no vacant established positions in our clinics for psychiatrists. There are only two vacancies for psychologists and these are in clinics that already have a full time psychologist.

The employment of social workers is not quite so happy a situation. Although 27 are employed in the Department's 22 clinics, there are currently nine vacant positions and some clinics are completely without this important member of the team.

The State salaries for social work are competitive with other States in the Southeastern Region of the United States, but Virginia's vacancies (and vacancies throughout the region) remain unfilled—mostly because the need for such workers far exceeds the supply available.

The best authorities in public mental health work sincerely believe that preventive psychiatry does ac-

tually pay for itself. The hospitals report that up to 30% of their first admissions could be avoided, at least postponed for a long while, if community resources for diagnosis and treatment were available. It is well known that many patients could be discharged from mental hospitals sooner if they could be followed in after-care by community mental health resources.

Mental Hygiene Clinics do not have to pay for food and shelter—major items of hospital budgets. The saving of tax money in treating an out-patient as distinguished from an in-patient is therefore a serious consideration for any thoughtful taxpayer and legislator when considering a mental hygiene clinic appropriation.

The Department of Mental Hygiene and Hospitals has a long term goal and plans to extend clinic services to the remaining 25% of our population in the remaining 50 counties that are not now receiving the benefits of mental hygiene clinic services. This will be increasingly difficult because these "not covered" areas are geographically isolated from urban centers and professional help will be very difficult to recruit. Logically, expansion should be first into counties immediately surrounding the present clinics. This will necessitate staff expansions in most instances, particularly in clinics that have long waiting lists. Some of these rural areas will need only part-time services—such as the one-day per week clinic in Loudoun County, staffed by a traveling team from an urban center. There are many disadvantages to a staff "not in residence" but such a service is better than none at all.

Interstate cooperation is a possibility as already demonstrated at Bristol, Virginia-Tennessee. Possibly North Carolina, Maryland, West Virginia and Kentucky could join Virginia in joint operations along our other borders.

There has recently been a movement toward *all purpose* clinics in Virginia and elsewhere as distinguished from those who specialize only in the care of children. There is also a tendency to locate new clinics and relocate old ones in or near medical centers rather than in residential areas. There is a growing interest by the clinic staffs in the patients discharged from hospitals. Already a sizeable number are being seen in many of the clinics. This interest in rehabilitation and care of the discharged patient by mental hygiene clinic personnel is a movement which, if fully consummated, would bring Mental Hygiene Activities in Virginia back to one of the original purposes that the establishing law in Virginia intended.

Pre-Paid Medical Care . . .

Edited by

RICHARD J. ACKART, M.D.

Committees on Use of Hospital Facilities

We are now in a prepayment or insurance economy, with an ever-increasing number of patients covered by insurance. The problems incident to the removal of the financial barrier to health care needs, together with the greater health consciousness of people today, demand the attention of physicians who basically determine and control the use and provision of hospital facilities. If our total use of today's expensive hospital facilities cannot be fully justified on medical grounds, then the public, as well as Blue Cross and insurance companies, have real cause for concern, and we have an obligation to review and revise our present practices. Any unnecessary use of hospital facilities must be eliminated if the cost of health services in our communities, expressed in terms of Blue Cross rates and insurance premiums, is to be kept at a reasonable and proper level.

The most effective way—if not the only effective way—for the medical profession to exert a competent influence upon usage of hospital facilities is through the activities of local, on-the-spot committees of the medical staffs of hospitals. Each such committee, perhaps best designated as the Committee on the Use of Hospital Facilities, should be a permanent one, although its membership may or may not be rotated. The exact composition of the committee must, of course, be at the sole discretion of the medical staff at the hospital, which undoubtedly would want its committee to include representatives of the basic medical services provided at that hospital.

The local staff's Committee on the Use of Hospital Facilities should be cognizant of the most likely areas where possible "unnecessary" or uneconomical uses of hospital facilities are apt to occur:

1. Admissions for purely diagnostic studies—medical inventory—where procedures and treatment do not require hospitalization.

Editor's Note: This article has been adapted from a letter written by C. Reid Edwards, M. D., Baltimore, to the Chiefs of Staff of all Maryland hospitals—a letter which prompted establishment of Committees at many of those hospitals.

2. Hospital stays longer than medically necessary.
3. Admissions for the convenience of the patient, the family, or possibly the attending physician.
4. Use of ancillary facilities (x-rays, laboratory, drugs, etc.) to a greater degree than medically indicated.

Use of the endorsement to the Blue Shield Contract which first became available to the Virginia public (Richmond Plan area) last January, and which provides benefits for diagnostic procedures when performed in doctors' offices and hospital outpatient departments, should help to control so-called "diagnostic admissions". But such coverage will not by any means provide a solution to the total problem.

Toward solving the total problem, each hospital staff's Committee on the Use of Hospital Facilities should undertake an analysis of (1) admission policies and practices, (2) types and amounts of services ordered, (3) scheduling of tests and examinations, (4) length of patient stay, (5) adequacy of outpatient facilities and services, and (6) discharge policies and procedures. This analysis should include all types of patients, the uninsured as well as the insured. It is to be anticipated that individual case review will provide the committee with specific areas of strength and weakness, and disclose where corrective actions might be necessary; what individual procedures, practices, routines, and techniques might be changed; and which persons might be asked to review their own activities from a medical economic viewpoint.

When initiating a study or review of specific areas of patient care in their hospital, the physician-members of the Committee on the Use of Hospital Facilities might first want to ascertain the answers to the following:

- a. Has our Medical Staff reviewed our standing and routine orders recently? Is our entire Medical Staff familiar with them?
- b. Is it possible at our hospital to have patients procure x-ray, laboratory, and other examinations prior to admission?
- c. Does our Admitting Office arrange immediate

- appointments for routine diagnostic tests on admission of the patient?
- d. Are orders and requests for professional consultations answered promptly by the consultant concerned?
- e. Are x-ray, laboratory, and other ancillary services readily available at all times?
- f. Are checks (pre-determined limits) kept on treatments prescribed for patients?
- g. Are patients retained in our hospital unnecessarily while awaiting an operation?
- h. Are there administrative checks on the length of time each patient has been in our hospital?
- i. Do some of our physicians hold beds purposely so that they may assure the admission of their own patients?

- j. Are some of our patients retained in the hospital for reasons other than active treatment?
- k. Are patient discharges delayed because of failure of our Medical Staff to notify the departments concerned?

The nature of these questions indicates indeed that the total problem can be attacked effectively only at the local hospital level (where the hospital services are provided)—through self-analysis and self-imposed controls initiated and maintained by the doctors of each local area. Only through a vigorous program at the local level, undertaken by the physicians responsible for patient treatment and care, can the public be assured that the rising costs of health care are fully justified and that there is no unnecessary or wasteful use of hospital facilities.

Three New Drugs

Three promising new drugs for the treatment of circulatory system diseases were described in the July 11th Journal of the American Medical Association.

Two of the drugs are used in the treatment of high blood pressure, while the other is an anticoagulant, used to dissolve or prevent blood clots.

The anticoagulant is a new coumarin derivative with the tradename Liquamar. It is 10 to 25 times more active than bishydroxycoumarin, the parent substance, according to Drs. Herman Gold and George W. Lilley, Chester, Pa.

The drug has been intensively studied in Europe, but little has been done with it in the United States. They gave Liquamar to 111 patients suffering from acute myocardial infarction (a heart attack resulting from a blood clot), coronary insufficiency, acute phlebitis (inflammation of a vein), and various other circulatory ailments with which blood clots are associated.

Slower clotting times of the blood were noted within 42 hours in 77 per cent of the patients. Only 3.6 per cent showed abnormal bleeding. The doctors concluded that Liquamar produces a satisfactory slowing of blood clotting during short-term treatment of blood-clotting disease states.

Guanethidine, a "new, potent antihypertensive drug," was discussed by Drs. Irvine H. Page and Harriet P. Dustan, Cleveland Clinic. Its chemical

structure and mechanisms of action differ from those of other agents used in the treatment of high blood pressure.

Experimental work in dogs indicated that guanethidine has a prolonged action. Treatment of 18 patients with high blood pressure showed that the drug has a rapid, but prolonged action, with mild diarrhea as the only side effect so far noted.

The other antihypertensive drug—hydrochlorothiazide—was described by Dr. Victor Vertes and Mervyn Sopher, Mount Sinai Hospital, Cleveland.

It is a relative of chlorothiazide, which was originally used as a diuretic (fluid-removing agent) and was then found to have blood pressure lowering properties.

The new drug was given to 10 patients with high blood pressure of unknown cause. It was effective in lowering the blood pressure of all patients, was well tolerated by all, and produced no adverse side effects.

The action of the drug may result from its ability to produce sodium and chloride loss by the body, thus maintaining the patient on a "low-salt diet" in spite of general food intake, the doctors said. It has been shown that severe sodium restriction alone will lower blood pressure; however, it is impossible for a person to maintain a severe restriction outside the hospital. Such drugs as hydrochlorothiazide may help in this procedure.

PRELIMINARY
PROGRAM

112th MEETING

The Medical Society of Virginia

HOTEL ROANOKE
ROANOKE, VIRGINIA
October 4-7

PRELIMINARY PROGRAM
112TH MEETING
THE MEDICAL SOCIETY OF VIRGINIA

HOTEL ROANOKE
ROANOKE, VIRGINIA
OCTOBER 4-7, 1959

Sunday, October 4

1:00 P.M.

COUNCIL

Parlor D

7:00 P.M.

House of Delegates—Dinner Meeting

Ballroom

Monday Morning, October 5

9:30 A.M.

Ballroom

Welcome and Preliminary Announcements—

Robert S. Hutcheson, M.D., Chairman, Local
Committee on Arrangements

Memorial Observance

Scientific Program

Guy W. Horsley, M.D., Richmond, Presiding

9:45 A.M.—THE MEDICAL MANAGEMENT OF
BLEEDING PEPTIC ULCERATION—Marion L. Rice,
Jr., M.D., Richmond

The existing or impending emergency of gastrointestinal hemorrhage requires an orderly and systematic approach. The medical approach to the patient with upper gastro-intestinal hemorrhage is discussed and a regime of intensive therapy is presented. Special emphasis is given to the use of diagnostic problems, the medical-surgical cooperative team, and the indications for surgical intervention.

10:00 A.M.—THE TREATMENT OF ACUTE PERFORATED PEPTIC ULCER—Henry P. Royster, M.D., and J. M. Harrison, M.D., Richmond

The mortality rate and morbidity of primary gastrectomy in selected cases of acute perforated ulcer has been found to compare favorably with that for elective gastrectomy. Many qualified surgeons and gastro-en-

terologists feel that a perforation per se is evidence of intractability and in most cases primary gastrectomy rather than simple closure should be performed in these patients. The authors discuss their experience with patients who have had acute perforations.

10:15 A.M.—ROENTGEN DIAGNOSIS OF CERTAIN
SMALL BOWEL AFFECTATIONS—James G. Snead,
M.D., Roanoke

This paper deals primarily with abnormalities affecting motor function of the small intestine, rather than specific disease entities such as regional enteritis, tuberculosis or sprue. It is divided essentially into two parts; namely, conditions affecting the duodenum and those affecting the remaining segments of the small intestine.

10:30 A.M.—RECENT ADVANCES IN THE DIAGNOSIS
AND TREATMENT OF HEAD AND NECK CANCER—
William R. Nelson, M.D., Richmond

Tumors of the head and neck frequently involve more than one vital structure simultaneously and many times lymph node metastases are recognized before the primary tumor is found. Cases demonstrating these features are presented along with a discussion of newer diagnostic therapeutic techniques in the management of complicated head and neck tumor problems.

10:45 A.M.—STAPES SURGERY—PAST AND PRESENT—Cary N. Moon, Jr., M.D., Charlottesville

A historical review of: (1) surgical attempts to restore hearing by the stapes route in the last 25 years of the 20th century, (2) the fenestration era and, finally (3) the last six years of active stapes surgery. The evolution of technique is described with slides, emphasis being placed on the rapidly changing techniques and equipment.

11:00 A.M.—Intermission to visit Exhibits.

11:30 A.M.—CARDIOVASCULAR RENAL COMPLICATIONS OF PREGNANCY IN NEGRO WOMEN—A SURVEY OF THE PROBLEM—Nathaniel H. Wooding, M.D., Halifax

The purpose of this paper will be to appraise the present cardio-vascular renal states of those women who have had tubal ligation or who have had no more

pregnancies, to search for factors common to this group and to those women who later died, to re-evaluate the management of pregnancy in the face of such complications and to hunt for the signs which may indicate the approaching point of no return so that the patient may be given definite assistance in avoiding future pregnancies.

11:45 A.M.—*Guest Speaker*—Lee Buxton, M.D., Yale University School of Medicine, New Haven, Connecticut—DIAGNOSIS AND TREATMENT OF THE PROBLEMS OF SECONDARY AMENORRHEA.

12:15 P.M.—THE USES OF CORTICOSTEROID THERAPY IN OBSTETRICS AND GYNECOLOGY—Kenneth Baldwin, M.D., Richmond

A discussion of the practical aspects of corticosteroid therapy in obstetrics and gynecological abnormalities such as hyperemesis gravidarum, Rh sensitization, pelvic infections, fistulae and amenorrhea.

12:45 P.M.—B WELCHII INFECTION OF THE UTERUS—Norman Thornton, M.D., Charlottesville

Monday Afternoon, October 5

See special section on luncheons, committee meetings and special events.

2:30 P.M.

Reference Committee

Ballroom

3:00 P.M.

Medical Movies

Cavalier and Pocahontas Rooms

6:30 P.M.

Cocktail Party

Cavalier and Pocahontas Rooms

7:30 P.M.

Banquet—Ballroom

Recognition of Past-Presidents

Presentation of Fifty Year Club Awards

Awarding of Golf Prizes

Presidential Address of Walter P. Adams, M.D.

Installation of Allen Barker, M.D., as President

Tuesday Morning, October 6

9:30 A.M.

Ballroom

James M. Peery, M.D., Cedar Bluff, Presiding

9:30 A.M.—DIAGNOSIS AND MANAGEMENT OF IMPERFORATE ANUS—Arnold M. Salzberg, M.D., Richmond

The different types of imperforate anus and their accompanying fistulae will be defined. The incidence and diagnostic features of each type will be emphasized in relation to eventual treatment and prognosis. Operative management of approximately 15 cases of imperforate anus seen during the past seven years will be utilized to emphasize operative approach.

9:45 A.M.—RE-EVALUATION OF INGUINAL HERNIORRHAPY IN THE INFANT AND CHILD—Charles E. Davis, Jr., M.D., Norfolk

The question of the advisability of bilateral operation in children with only one hernia is dwelt on at some length with the ultimate conclusion that all children who have no commanding contraindication and who have a one-sided inguinal hernia should have bilateral herniorrhaphy. The question of wound infection, recurrences and the basic philosophy governing surgery of this type in the infant is discussed.

10:00 A.M.—MINIMIZING THE GENETIC HAZARDS OF MEDICAL RADIATION—George Cooper, Jr., M.D., Charlottesville

Ways in which radiologists are minimizing the radiation hazards to which their patients are subjected will be reviewed. Statistics giving an approximation of the amount of ionizing energy absorbed in the gonads of the patients in a large department of Radiology during a period of one year will be presented. Some questions will be raised about the comparative genetic hazard of ionizing energy used for medical purposes and some other genetic hazards.

10:15 A.M.—*Guest Speaker*—Courtland H. Davis, Jr., M.D., Bowman Gray School of Medicine, Winston-Salem, North Carolina—THE RETARDED CHILD—WHAT CAN THE PHYSICIAN DO?—(Sponsored by Virginia Association for Retarded Children)

10:45 A.M.—Intermission—Visit the Exhibits

11:15 A.M.—A RE-ASSESSMENT OF THE MANAGEMENT OF VISCERAL DYSFUNCTION SECONDARY TO NEUROLOGICAL DEFICIT—Patrick C. Devine, M.D., Frank N. Bilisoly, M.D., Edwin Ide Smith, M.D., Norfolk

A fifteen year old male patient with a congenital cauda equine lesion manifested by patchy motor and sensory defects in the lower extremities and lifelong urinary incontinence and colonic obstipation is presented. A description is given of the initial investigation, surgical management, and a one year follow-up.

11:30 A.M.—*Guest Speaker*—Bruce Logue, M.D., Emory University, Atlanta, Georgia—SUBTLE

SIGNS AND SYMPTOMS OF CONGESTIVE HEART FAILURE.

12:00 Noon—HAZARDS OF ADRENOCORTICOSTEROID THERAPY—W. T. Thompson, Jr., M.D., John J. Kelly, III, Richmond

Because of the potent and varied metabolic effects produced by adrenal cortical hormones, their clinical use may arouse harmful as well as beneficial responses. Serious reactions always develop if these drugs are given in large enough amounts for a long enough period of time. For this reason steroid therapy is a calculated risk in which its hoped for advantages must be balanced against its potential disadvantages, especially when long term treatment is undertaken.

12:15 P.M.—ASEPTIC MENINGITIS — PRACTICAL CONSIDERATIONS—Thomas L. Gorsuch, M.D., Waynesboro

The subject of this presentation is the practical classification and management of the diseases causing the aseptic meningitis syndrome, emphasizing available treatment. Illustrative case reports will be presented.

12:30 P.M.—Recess for Lunch

Tuesday Afternoon, October 6

2:00 P.M.

Ballroom

McLemore Birdsong, M.D., Charlottesville,
Presiding

2:30 P.M.—REPORT OF TWENTY-FOUR HUNDRED CASES OF CHOLECYSTITIS OPERATED ON AT THE JOHNSTON-WILLIS HOSPITAL—Frank S. Johns, M.D., Richmond

The author will discuss the time most suitable for operating on a given patient; also the type of operation to be done, with emphasis on the fact that the surgeon must be governed by the pathological findings and by what type of operation the patient may be able to tolerate. There will be presented in some detail the preparation of these 2,400 cases, the stage of disease at which they were operated on, the type operation, and the results.

2:45 P.M.—*Guest Speaker*—Robert H. Felix, M.D., National Institute of Mental Health, Bethesda, Maryland—SOME CONSIDERATIONS IN MAKING PSYCHIATRIC REFERRAL

3:15 P.M.—INTRACRANIAL VASCULAR LESIONS—Edgar N. Weaver, M.D., Roanoke

Subject matter to cover diagnosis, treatment and prognosis of vascular lesions affecting the brain. Arteriographic lantern slides will be used throughout the discussion.

3:30 P.M.—SURGICAL TREATMENT OF CANCER OF THE NOSE—C. C. Coleman, Jr., M.D., Charlottesville

This paper deals with the correction of the problems associated with persistent carcinoma of the nose following inadequate radiotherapy and surgery. It is the author's aim to demonstrate the methods used in the subtotal reconstruction of the nose for cancer. The surgical methods employed are clearly demonstrated by Kodachrome lantern slides illustrating the methods of reconstruction and the final results.

4:00 P.M.

House of Delegates

Cavalier and Pocahontas Rooms

9:00 P.M.

Dancing and Floor Show

Ballroom

Wednesday Morning, October 7

10:00 A.M.

Ballroom

Guy W. Horsley, M.D., Richmond, Presiding

10:00 A.M.—*Guest Speaker*—William H. Muller, Jr., M.D., Professor of Surgery, University of Virginia Medical School, Charlottesville—CURRENT CONCEPTS IN THE SURGICAL MANAGEMENT OF AORTIC VALVULAR DISEASE

10:30 A.M.—*Guest Speaker*—David M. Hume, M.D., Professor of Surgery, Medical College of Virginia, Richmond—NEWER ASPECTS OF DIAGNOSIS AND TREATMENT OF ENDOCRINE DISEASES

11:00 A.M.—Panel—SOCIAL SECURITY

W. Linwood Ball, M.D., Richmond, Moderator

Guest Speaker—Maurice D. Duberry, Regional Representative of the Bureau of Old Age and Survivors Insurance, Charlottesville

Guest Speaker—L. Howard Schriver, M.D., Cincinnati, Ohio

SPECIAL EVENTS

Sunday, October 4

Council Meeting, Parlor D, Hotel Roanoke—
1:00 P.M.

Virginia Section, American College of Chest Physicians, Cavalier and Pocahontas Rooms, Hotel Roanoke—2:00 P.M.

Virginia Society of Anesthesiology, Pine Room, Hotel Roanoke, Business Meeting and Luncheon—12:30 P.M.

House of Delegates, Dinner Meeting, Ballroom, Hotel Roanoke—7:00 P.M.

Monday, October 5

Virginia Academy of General Practice, Board of Directors, Breakfast Meeting, Hotel Roanoke—8:00 A.M.

Luncheon—Ballroom, Hotel Roanoke—1:00 P.M.

Virginia Urological Society, Luncheon, West Tower Room, Hotel Roanoke—1:00 P.M.

Virginia Section, American College of Physicians, Luncheon, Pine Room, (Cocktails in Alcove), Hotel Roanoke—1:00 P.M.

Virginia Section of Internal Medicine—will have luncheon with Virginia Section of American College of Physicians—will hold meeting in Pine Room following luncheon.

Virginia Surgical Society, Luncheon, Cavalier Room, Hotel Roanoke—1:00 P.M.

Virginia Obstetrical and Gynecological Society—Luncheon, Pocahontas Room, Hotel Roanoke—1:00 P.M.

Virginia Pediatric Society, Luncheon, Parlor D, Hotel Roanoke—1:00 P.M.

Virginia State Orthopedic Society, Luncheon, Parlor F, Hotel Roanoke—1:00 P.M.

Virginia Society of Ophthalmology and Otolaryngology, Luncheon, Parlor L, Hotel Roanoke—1:00 P.M.

Virginia Radiological Society, Luncheon, Shenandoah Club, 1:00 P.M.

Reference Committee, Ballroom, Hotel Roanoke—2:30 P.M.

The Medical Society of Virginia, Cocktail Party, Cavalier and Pocahontas Rooms, Hotel Roanoke—6:30 P.M.

Banquet, Ballroom, Hotel Roanoke—7:30 P.M.

Tuesday, October 6

House of Delegates, Cavalier and Pocahontas Rooms, Hotel Roanoke—4:00 P.M.

Virginia Medical Service Association, Annual Meeting, Parlor D, Hotel Roanoke—4:00 P.M.

University of Virginia Alumni Association, Cocktail Party, Ballroom, Hotel Roanoke—6:00 P.M.
Banquet, Ballroom—7:00 P.M.

Medical College of Virginia Alumni Association, Cocktail Party, Shenandoah Club—6:00 P.M.
Banquet, Shenandoah Club—7:00 P.M.

The Medical Society of Virginia, Dancing and Floor Show, Ballroom, Hotel Roanoke—9:00 P.M.—1:00 A.M.

Book Announcements

Books received for review are promptly acknowledged in this column. In most cases, reviews will be published shortly after the acknowledgment of receipt. However, we assume no obligation in return for the courtesy of those sending us same.

The Ecology of Human Disease. By JACQUES M. MAY, M.D., Director, Medical Geography Department, American Geographical Society, New York. Foreword by Felix Marti-Ibanez, M.D., Professor and Director, Department of the History of Medicine, New York Medical College, Flower and Fifth Avenue Hospitals, New York; Editor-in-Chief of MD Medical Newsmagazine. MD Publications, Inc., New York. 1959. xxiv-327 pages. Cloth. Price \$7.50.

* * *

A History of Neurology. By WALTHER RIESE, M.D., Associate Professor Psychiatry and Neurology; Associate Professor of the History of Medicine; Chairman of the Department of the History of Medicine, Medical College of Virginia, Richmond. Foreword by Felix Marti-Ibanez, M.D., New York. MD Monographs on Medical History Number Two. MD Publications, Inc., New York. 1959. 223 pages. Cloth. Price \$4.00.

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Therapeutic Electricity and Ultraviolet Radiation. Edited by Sidney Licht, M.D., Honorary Member, British Association of Physical Medicine, Danish Society of Physical Medicine and the French National Society of Physical Medicine. The Fourth Volume of Physical Medicine Library. Elizabeth Licht, Publisher, New Haven, Conn. 1959. xii-373 pages. Cloth. Price \$10.00.

* * *

A History of Ophthalmology. By GEORGE E. ARINGTON, Jr., M.D., Associate in Ophthalmology, Medical College of Virginia; Attending Ophthalmologist, Medical College of Virginia Hospital, Richmond Eye Hospital, Retreat for the Sick, and the Richmond Memorial Hospital. Foreword by Felix Marti-Ibanez, M.D., New York. MD Monographs on Medical History Number Three. MD Publications Inc., New York. 1959. xvii-174 pages. Cloth. Price \$4.95.

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The Family Medical Encyclopedia. By JUSTUS J. SCHIFFERES, Ph.D. Illustrated by Louise Bush, Ph.D. A Health Education Council Book. Little, Brown and Company, Boston. 1959. xviii-615 pages. Cloth. Price \$4.95.

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History of American Medicine. A Symposium. Edited by Felix Marti-Ibanez, M.D. MD Publications, Inc., New York. 1959. 181 pages. Paper. Price \$4.00.

Hearing. A Handbook for Laymen. By NORTON CANFIELD, M.D., Associate Clinical Professor of Otolaryngology, Yale University School of Medicine. Doubleday & Company, Inc., Garden City, N. Y. 1959. 214 pages. Cloth. Price \$3.50.

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Navy Surgeon. By HERBERT LAMONT PUGH, Rear Admiral U. S. Navy (M.C. Ret.) J. B. Lippincott Company, Philadelphia and New York. 1959. 459 pages. Cloth. Price \$5.00.

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A Doctor Remembers. By EDWARD H. RICHARDSON, M.D., Associate Professor Emeritus of Gynecology, The Johns Hopkins University School of Medicine, Baltimore. Vantage Press, New York. 1959. 252 pages. Cloth. Price \$3.95.

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Gynecologic Endocrinology. By GARDNER M. RILEY, Ph.D., Associate Professor Of Obstetrics and Gynecology, University of Michigan Medical School; Director, Reuben Peterson Memorial Research Laboratory, University Hospital, Ann Arbor. Foreword by Norman F. Miller, M.D. A Hoeber-Harper Book, New York. 1959. xix-330 pages. Illustrated. Cloth. Price \$8.50.

* * * * *

Fracture Surgery. A Textbook of Common Fractures. By HENRY MILCH, M.D., Emeritus Attending and Consulting Orthopedic Surgeon, Hospital for Joint Diseases, New York. And ROBERT AUSTIN MILCH, M.D., Assistant Resident Surgeon, Peter Bent Brigham Hospital, Boston. With a Chapter on Anesthesia by Herbert D. Dubovsky, M.D., Director of Anesthesiology, Easton Hospital, Easton, Pennsylvania. A Hoeber Harper Book. Paul B. Hoeber, Inc., New York. 1959. x-470 pages. With 671 illustrations. Cloth. Price \$17.50.

This is a very well written book with detailed information concerning the basic principles and the care of fractures and joint injuries. The experience of the author is reflected in the thorough, clear approach to each fracture problem, as well as to the detailed description of the principles of first aid, fracture healing, and other complications. The different types of fractures are well illustrated and this book should be in the library of anyone who undertakes the treatment of fractures.

WM. MINOR DEYERLE, M.D.

Woman's Auxiliary . . .

<i>President</i> -----	Mrs. Charles A. Easley, Danville
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Social Activities for the Ladies.

At the Annual Meeting of The Medical Society of Virginia to be held in Roanoke, October 4-7, the following social activities have been planned for the ladies:

Monday, October 5th

Golf at the Roanoke County Club. Tee-off time is from 9:00 to 11:00 A.M. The snack bar will be open.

Coffee will be served in the alcove of the writing room at the Hotel Roanoke from 9:30 to 11:30 A.M., and from 2:00 to 4:00 P.M.

The Annual Banquet will be held at the Hotel Roanoke, preceded by a cocktail party.

Tuesday, October 6th

Luncheon at the new Shenandoah Club, located

behind the Patrick Henry Hotel, at 12:30 P.M. Fashion show presented by Heironimus. Tickets are \$3.25 and will be available at the registration desk.

Alumni banquets will be held in the evening.

Dance at the Hotel Roanoke, 8:00 P.M. to 1:00 A.M., with Freddie Allen's orchestra and a floor show.

Alexandria.

The Auxiliary to the Alexandria Medical Society paid tribute to the physicians of the community by entertaining the members of the Society at a dinner prior to the last meeting of the year on May 14th. The event took place at the Fairlington Methodist Church and was planned, prepared and served by the Auxiliary, with Mrs. John Hoyle as chairman.

The June meeting was held at the home of Mrs. Jerome Baum. The following officers were installed: President, Mrs. Walter J. Brennan; president-elect, Mrs. Robert H. Anderson; treasurer, Mrs. Robert Bregman; recording secretary, Mrs. Roy Gillinson; and corresponding secretary, Mrs. Richard E. Palmer.

ELEANOR M. MANGUS (MRS. L. E.)
Publicity Chairman

Longevity Rules

The way a man uses his years—not the way he counts them—tells how old he is, according to 91-year-old Senator Theodore F. Green of Rhode Island. In an interview reported in the May Today's Health, published by the American Medical Association, Senator Green explained how he has managed to remain active and "young at 91".

The senator, the oldest man ever to serve in Congress, said his secret of longevity is mainly due to moderation and exercise.

"Too many people give up and quit just as they are entering their prime," he said. "I never rest but I do relax. I don't get worried. I don't get excited. I laugh a lot.

"A good way to keep fit is to remain active. I

try to do a variety of things—that's what keeps you interested."

His advice for people wanting to live a long life is "Keep a clear conscience, practice moderation, enjoy your life and work, keep your weight down, and take regular exercise."

By exercise he means some daily exercise, not "lounging through the winter and then going athletic on a summer vacation or during a violent week end." Senator Green walks nearly every place he goes.

Commenting on other persons who fail to follow the common sense rules of healthful living, Senator Green said, "If they're not careful, they won't live to be venerable!"

Current Currents

THE FORAND BILL (H. R. 4700) is the big news as this issues goes to press. Hearings were held by the House Ways and Means Committee from July 13-17 and one hundred witnesses presented their views on the bill. The big question at this time is whether the bill will be reported out of committee and subjected to a vote on the floor. There is no question but that this bill represents the strongest challenge to the free practice of medicine yet made by the proponents of government medicine. Every physician should follow the progress of this bill with interest and concern.

THE PRELIMINARY PROGRAM of the 1959 Annual Meeting may be found in a special section of this issue and members will immediately recognize the scientific sessions as being among the best ever planned for any meeting. Attention is called to the change in format this year with the annual banquet scheduled for Monday night and the Alumni banquets on Tuesday night. Top entertainment and the finest in dance music will be offered in the Ballroom of the Hotel Roanoke following the Alumni banquets.

SOCIAL SECURITY coverage for physicians has long been a controversial subject, not only in Virginia, but over the entire nation. There is a feeling in some quarters that physicians, generally speaking, are uninformed on the question and that every effort should be made to present the facts in as effective and unbiased a manner possible. The Program Committee, with this thought in mind, has gone all out to arrange a truly excellent discussion of social security on Wednesday morning, October 7, at 11:00 A.M. Dynamic Dr. L. Howard Schriver, Cincinnati, a seasoned campaigner, will tell just why he believes the profession must stand firm and resist the efforts currently being made to bring physicians under the OASI program. The "other side" will be ably presented by Mr. M. D. Dewberry, Regional Representative, Bureau of Old Age and Survivors Insurance, Charlottesville.

The discussion will be moderated by Dr. W. Linwood Ball, Immediate Past Vice-President of the American Medical Association, and members will be given the opportunity to ask questions. Every component medical society should be well represented and the Committee will most certainly be disappointed if the Ballroom is not well filled.

ROANOKE has many good hotel and motel accommodations. It still is not too late to make your reservation. Remember—the Annual Meeting runs from October 4-7.

THE ANNUAL GOLF TOURNAMENT continues to be a popular feature of the Meeting. This year it will be held at the Roanoke County Club on Monday, October 5 and participants are urged to have their foursomes tee off between noon and 2:00 P.M. The tournament will consist of eighteen holes and prizes will be awarded in classes according to handicap on a medal score basis. The Callaway system will be used in the determining handicaps. The Society's championship trophy will be won by the participant having the lowest gross score. Awards will be presented during the annual banquet Monday night.

AN INDEX of file material on new or unproved methods of treatment of cancer has been prepared by the American Cancer Society. A copy is on file in the office of The Medical Society of Virginia and is available on a loan basis. Copies may also be secured on loan from the American Cancer Society, Virginia Division, Inc., 303 West Franklin Street, Richmond, and from the Cancer Coordinators at the Medical College of Virginia and University of Virginia School of Medicine.

ONE PIECE OF LITERATURE that should be standard equipment for presidents and other medical society officers is Robert's Rules of Order. Even if your society has a bound version, officers could probably use a pocket copy of "Simplified Parliamentary Procedure" for ready reference. This is a twelve page easy-to-read pamphlet distributed free by the Carrie Chapman Catt Memorial Fund, Inc., 461 Fourth Avenue, New York 16, N. Y.

IT IS NOT TOO LATE to obtain reservations for the AMA's Annual PR Institute, which will be held in Chicago on August 20-21. The sessions will be held at the Ambassador West Hotel. Virginia will be represented by Dr. John Wyatt Davis, Jr., Lynchburg, Co-Chairman, Public Relations Committee. Dr. Davis will describe the Society's campaign against food faddism.

DID YOU KNOW that last year, some 47,000,000 Americans were injured badly enough to require medical attention or to restrict their usual activities for at least a day and accidents around the home caused 41 per cent of the injuries, 17 per cent were injured at work, and 10 per cent were due to motor-vehicle accidents.

The largest medical statistical study ever undertaken is being conducted by the American Cancer Society with 50,000 volunteers interviewing one million persons in a door-to-door survey aimed at establishing a link between living habits, environment, and cancer.

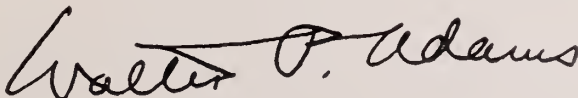
President's Message

A DECLINE in the quality of medical care is not what our public desires, but citizens in general are not aware of the importance of retaining the incentive of American medical practice as it is. There is frequently less public interest in professional ability than in the attendant socio-economic aspects. The public does not realize that the financial interest in third-party medicine, and its methods of operation, make the patient a captive.

The resounding vote I heard at Atlantic City Convention denouncing third-party medicine represented American Individualism as against Socialism. It was a vote for private enterprise and particularly for professional independence. The Delegates had heard no clamor from the public for lessening free choice of one's physician. They felt that professional service ceases to be such if dictated by the employer. And there had been news of a union abandoning two six-year-old closed-panel medical clinics in favor of a new union plan allowing free choice. Subscribers to closed-panel systems had found the restriction of free choice a disadvantage. Many panel physicians in third-party medicine had eventually found interference in matters to do with the quality of medical practice.

This vote by physicians against third-party medicine gives the public at least temporary continuation of the high standards of American medical care. But the public must be shown that it is up to the people themselves to create a desire for these high standards to be continued. In the final analysis the future of medicine will be determined by the will of the people—not the will of the physicians. Since every patient is a representative of the people each one should be well informed in these matters by his own personal physician. The answer, as to whether higher quality or lower quality medical care results, lies at the level of each physician's daily relationship with his patient. It therefore falls on each individual physician to act as a representative of medicine against third-party medicine. We must work harder to improve private medical service, but we must also sell the public on it.

Progress for American medicine, the best in the world, can only continue as a desire of the public—and physicians must create that desire.


President

The American Dental Association's Centennial

ON AUGUST 3, 1859, at Niagara Falls, N. Y., 26 dentists founded the American Dental Association. From this modest beginning the Association has grown to a membership of over 90,000 with 54 constituent societies and 450 component organizations in the cities and counties throughout this country.

As was true of The Medical Society of Virginia in terms of its relationship to the American Medical Association, the formation of the Virginia Society of Surgeon Dentists antedated the founding of the national dental organization by many years. In fact the Virginia Society, which was formed in 1842, has been termed the first incorporated dental society in the world. We will assume it deserves this distinction until an older claimant appears and certainly its record has been one of outstanding service to the State of Virginia.

A review of the accomplishments of American dentistry during the past century is actually a recounting of the world-wide advances made by this profession since 1859. These include the establishment of the first university dental school at Harvard in 1867, the introduction of procain anesthesia into dental practice in 1905, the employment of diagnostic x-ray in the demonstration of dental disease in 1910, the establishment of the Association for Dental Research in 1921, the field trials which led to the fluoridation of water to control tooth decay in 1944 and the founding of the National Institute of Dental Research at Washington, D. C., in 1948.

The Medical Society of Virginia congratulates the A. D. A. on its Centennial. May its second century be as productive as the first.

HARRY J. WARTHEN, M.D.

News Notes

New Members.

Since the list published in the July issue of the Monthly, the following members have been admitted into The Medical Society of Virginia:

Glenn Stuart Aggerup, M.D., Norfolk
Rudolf Anton Josef Benda, M.D., Austinville
Robert K. Dyer, M.D., Roanoke
Marion Emilio Espinola, M.D., Fairfax
Thomas Griffin Hardy, Jr., M.D., Roanoke
Yoshiki Ishizaki, M.D., Richmond
Albert William Moser, M.D., Catawba
Henry Sumpter Spencer, M.D., Richmond

The Medical Society of Virginia

Has received a merit award from the American Medical Education Foundation for outstanding contributions to the preservation of high standards of medical education in the United States. This was one of eleven such awards presented at the Annual Meeting of the American Medical Association.

Dr. Sanger Retires.

Dr. W. T. Sanger, chancellor and former president of the Medical College of Virginia, has retired after thirty-four years of service to the College. He retired as president in 1956 when he reached the age of seventy, but the Board of Visitors created the chancellorship to keep him on in an advisory capacity. Dr. Sanger was removed from the State payroll in June because of a new ruling of the General Assembly that retirement was compulsory at the age of seventy from all State positions. The Medical College has conferred a new title on him "chancellor emeritus" and he will continue to serve as a consultant to the College and will retain an office there.

Virginia Heart Association.

Mr. Ed P. Phillips, Richmond, was elected president of this association at its annual meeting in Richmond on June 25th. He succeeds Dr. George S. Grier, III, Newport News. Other officers are: Dr. L. Floyd Hobbs, Alexandria, president-elect; Dr. Reverdy H. Jones, Jr., Roanoke, vice-president. Among those on the Board of Directors are Drs. Carolyn McCue, Richmond; Samuel McDaniel, Nor-

folk; John W. Massey, Jr., and George S. Grier, Newport News; Homer A. Sieber, Roanoke; William H. Muller, Charlottesville; and Sam C. Pascoe, Annandale.

Dr. Albert V. Rigsbee,

Arlington, was recently presented the 6th Annual Welburn Award, which is given to the physician or layman who in the opinion of the County Medical Society has made an outstanding contribution to the Northern Virginia community. Dr. Rigsbee is editor of the Medical Bulletin of Northern Virginia in which capacity he has served for five years. He has also served on the Science Fair Committee of Arlington and Northern Virginia since its founding and is chairman of the Medical-Science category.

St. Albans Psychiatric Hospital,

Radford, has received notification from the Central Inspection Board of the American Psychiatric Association that it has been fully approved by the inspection board. At the present time, only forty-four hospitals in the United States have been given full approval by the Board and only twenty-two of this number are private hospitals.

St. Albans Hospital was established in 1916. Dr. James P. King is director.

Dr. C. Whitney Caulkins

Has been elected president of the Waynesboro Rotary Club.

Conference on Gerontology.

The First Annual Conference on Gerontology to be held at Duke University for the Study of Aging will be on November 19-20. The conference will emphasize basic biological and medical aspects of the problems of aging.

American College of Chest Physicians.

At the 25th Annual Meeting of the College, held in Atlantic City in June, Dr. E. C. Drash was re-elected Governor for Virginia. The following physicians received their certificates of Fellowship: Drs. Leo E. Johns, Jr., Norfolk; Joseph D. Lea, Norfolk; and William F. Schmidt, Norton.

Tidewater Academy of General Practice.

Dr. Otto Kastenbaum has succeeded Dr. George Rector as president of the Academy. Dr. Harold Taylor has been named president-elect; Dr. Brooke M. Moffett, vice-president; Dr. E. S. Berlin, secretary; Dr. Earl J. Kerpelman, treasurer; and Drs. William L. Taliaferro and J. W. Creef, members of the executive committee.

Dr. Leta M. White,

Formerly of Petersburg, has received the Algernon-Sullivan Award at the commencement exercises of Furman University. She is now practicing in Gaffney, South Carolina.

Medical Staff.

Dr. F. B. Wolfe has been named president of the Franklin Memorial Hospital Medical Staff at Rocky Mount. Dr. Robert C. Hughes and Dr. James T. Colley were named vice-presidents, and Dr. Frank Dudley, secretary-treasurer.

Mr. Benjamin C. Sturgill,

Charlottesville, now in his third year at the University of Virginia School of Medicine, has been awarded a \$500.00 scholarship for research and

clinical training this summer in the field of the allergic diseases by the Allergy Foundation of America. He will carry out this work under the direction of Dr. Oscar Swineford, Jr.

International College of Surgeons.

The Mid-Atlantic meeting of the College will be held at The Homestead, Hot Springs, on November 16-18. The profession is cordially invited to attend.

Wanted.

One male psychiatrist, under 50 years, Diplomate or Board eligible, to direct privately operated outpatient clinic in Charleston, West Virginia. Salary: \$20,000-\$25,000 per annum. Write Box 625, care Virginia Medical Monthly, 4205 Dover Road, Richmond 21, Virginia. (Adv.)

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Obituaries

Dr. Prentice Kinser, Jr.,

Widely-known Danville orthopedic surgeon, died June 23rd when he failed to rally from a heart operation. He had been incapacitated from a heart ailment since last December. Dr. Kinser was fifty-three years of age and a native of Kentucky. He graduated from Vanderbilt Medical School in 1932. After a brief practice in West Virginia and on the staff of the University of Virginia Medical School, Dr. Kinser located in Danville in 1940. He served during World War II with the 8th University of Virginia Evacuation Hospital Unit as chief orthopedic surgeon and was active in the North African and Italian campaigns. Dr. Kinser volunteered countless hours to athletic teams and other groups of youngsters. He served as medical advisor to the Danville Life Saving and First Aid Crew and was medical director for Civil Defense. He was a member and former director of the Chamber of Commerce, the Kiwanis Club, and Danville Area De-

velopment Foundation. Dr. Kinser was a 32nd degree Scottish Rite Mason. He has been a member of The Medical Society of Virginia since 1941.

Dr. Kinser is survived by his wife, a son and a daughter.

Robert C. Duval, Jr.,

Richmond, Attorney for The Medical Society of Virginia, died July 3rd after an illness of several months. He was seventy-two years of age. Mr. Duval was the author of the Medical Practice Act of Virginia and the statutes that set up the present medical examiner system that is used in the State.

Mr. Duval had served as attorney for the Society for many years. His knowledge of medical legislation made him particularly invaluable. He was never too busy to answer questions and advise the executive office and members in many ways. Mr. Duval had many friends among the members of the Society and he will be hard to replace.

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The State Board of Medical Examiners of Virginia

The next meeting of the Virginia Board of Medical Examiners will be held at the Richmond Hotel, Richmond, Virginia, December 1, 1959. The examinations will be held at the Hotel, December 2-4, inclusive. All applications and other documents pertaining to the examinations or to matters to be discussed by the Board must be on file in the Secretary's office on or before November 10, 1959. The Secretary of the Board is Dr. K. D. Graves, 631 First Street, S. W., Roanoke, Virginia.

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LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY
Pearl River, New York





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POMALIN
Liquid TRADE MARK

New

RASPBERRY FLAVOR

and pink color make POMALIN pleasant to take and appealing to both children and adults.

FORMULA:

Each 15 cc. (tablespoon) contains:
Sulfaguonidine 2 Gm.
Pectin 225 mg.
Kaolin 3 Gm.
Opium tincture 0.08 cc.
(equivalent to 2 cc. paregoric)

SUPPLIED:

Bottles of 16 fl. oz.
Exempt Narcotic.
Available on Prescription Only.

Winthrop
LABORATORIES
New York 18, N. Y.

- ✓ Curbs excessive peristalsis
- ✓ Adsorbs toxins and gases
- ✓ Soothes inflamed mucosa
- ✓ Provides intestinal antiseptics

DOSAGE:

ADULTS: Initially 1 or 2 tablespoons from four to six times daily, or 1 or 2 teaspoons after each loose bowel movement; reduce dosage as diarrhea subsides.

CHILDREN: ½ teaspoon (=2.5 cc.) per 15 lb. of body weight every four hours day and night until stools are reduced to five daily, then every eight hours for three days.

Digitalis

in its completeness



Each pill is
equivalent to
one USP Digitalis Unit

Physiologically Standardized
therefore always
dependable.

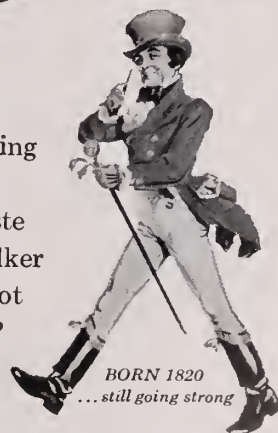
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Vitamin-Mineral Supplement Lederle

CAPSULES—14 VITAMINS—11 MINERALS

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Improvement is marked in virtually 9 out of 10 vertiginous patients on ANTIVERT.¹ Combines the two most effective therapies for equilibrium disorders. Each ANTIVERT tablet contains:

Meclizine (12.5 mg.)—the most effective anti-histaminic to control vestibular dysfunction.²

Nicotinic acid (50 mg.)—the drug of choice for prompt vasodilation.^{1,3}

Prescribe ANTIVERT for relief of Meniere's syndrome, arteriosclerotic vertigo, labyrinthitis, and streptomycin toxicity. Also effective in recurrent headache, including migraine.

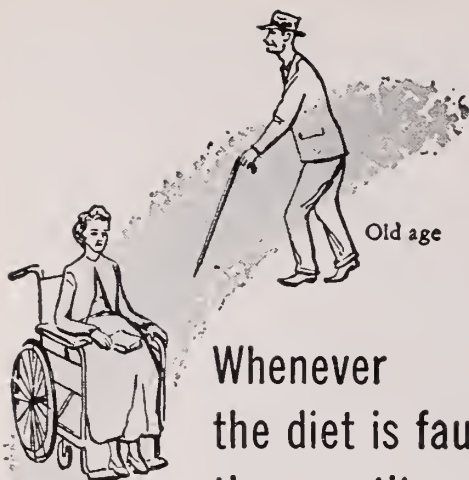
Dosage: One tablet before each meal.

Supplied: In bottles of 100 blue-and-white scored tablets. Prescription only.

References: 1. Menger, H. C.: Clin. Med. 4:313 (March) 1957. 2. Charles, C. M.: Geriatrics 2:110 (March) 1956. 3. Shuster, B. H.: M. Clin. North America 40:1787 (Nov.) 1956. 4. Dolowitz, D. A.: Rocky Mountain M. J. 55:53 (Oct.) 1958.



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Convalescence



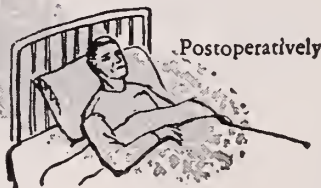
Adolescence



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gastrointestinal
conditions



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or the loss of food
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*through vomiting
or diarrhea—*

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stimulates the appetite,
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DOSAGE is 1 teaspoonful two or three times
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potassium therapy.

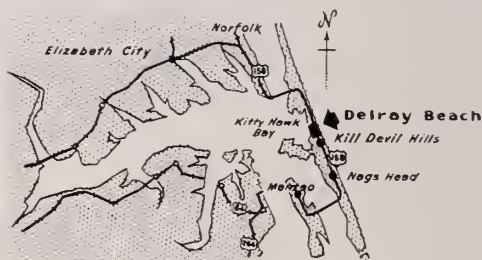
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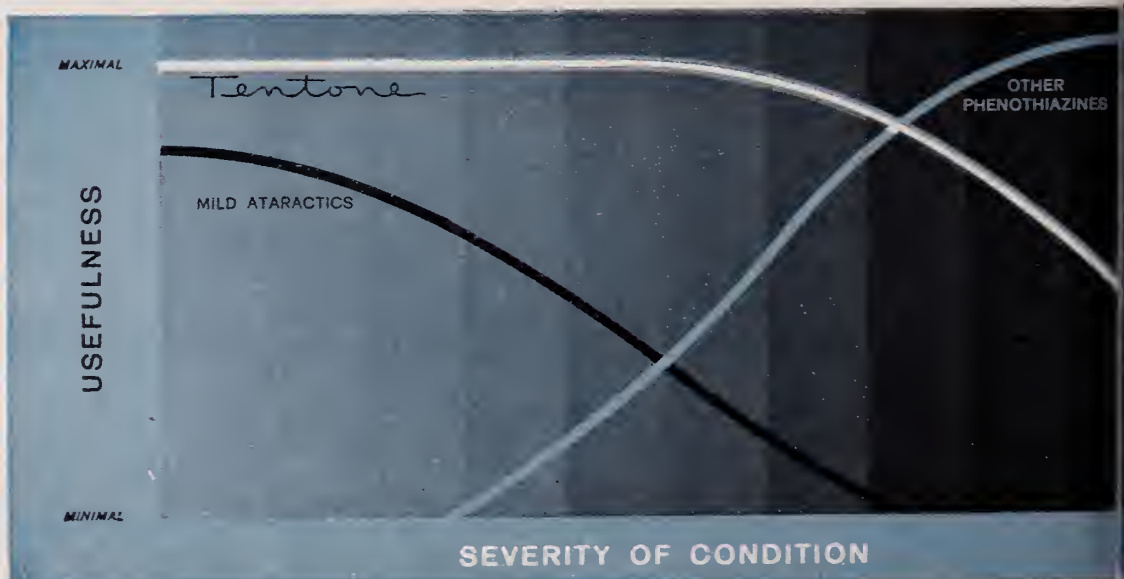
Pfizer Laboratories
Division, Chas. Pfizer & Co., Inc.
Brooklyn 6, New York

References: 1. Finkelstein, M., et al.: J. Pharmacol. & Exper. Therap. 125:330 (April) 1959. 2. McHardy, G., et al.: Postgrad. Med., in press. 3. Winkelstein, A.: Amer. J. Gastroenterol., in press. 4. Finkelstein, M., et al.: Presented at Fall Meeting, Amer. Soc. Pharmacol. & Exper. Therap., 1958. 5. Leming, B.: Clin. Med. 6:423 (March) 1959.

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NEW PHENOTHIAZINE COMPOUND FOR THE LOWER AND MIDDLE RANGE OF DISORDERS

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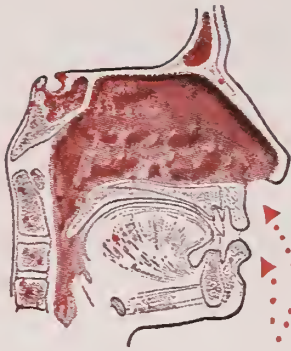
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25 mg. tablets



50 mg. tablets



when pollen allergens attack the nose...

Triaminic provides more effective therapy in respiratory allergies because it combines two antihistamines^{1,2} with a decongestant.

These antihistamines block the effect of histamine on the nasal and paranasal capillaries, preventing dilation and exudation.³ *This is not enough;* by the time the physician is called on to provide relief, histamine damage is usually present and should be counteracted.

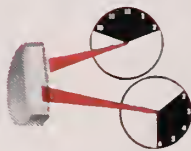
The decongestive action of orally active phenylpropanolamine helps contract the engorged capillaries, reducing congestion and bringing prompt relief from nasal stuffiness, rhinorrhea, sneezing and sinusitis.^{4,5}

TRIAMINIC is orally administered, systemically distributed and reaches *all* respiratory membranes, avoiding nose drop addiction and rebound congestion.^{6,7} TRIAMINIC can be prescribed for prompt relief in summer allergies, including hay fever.

References: 1. Sheldon, J. M.: Postgrad. Med. 14:465 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy 19:19 (Jan.) 1948. 4. Goodman, L. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. 112:259 (Dec.) 1957. 7. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

Triaminic®

TRIAMINIC provides around-the-clock freedom from hay fever and other allergic respiratory symptoms with just one tablet q. 6-8 h. because of the special timed-release design.



Each TRIAMINIC timed-release tablet provides:

Phenylpropanolamine HCl.....	50 mg.
Pheniramine maleate.....	25 mg.
Pyrilamine maleate.....	25 mg.

Also available: TRIAMINIC SYRUP for those patients of all ages who prefer a liquid medication. Each 5 ml. teaspoonful is equivalent to 1/4 Triaminic Tablet or 1/2 Triaminic Juvelet. TRIAMINIC JUVELETS provide half the dosage of the Triaminic Tablet with the same timed-release action for prompt and prolonged relief.



running noses



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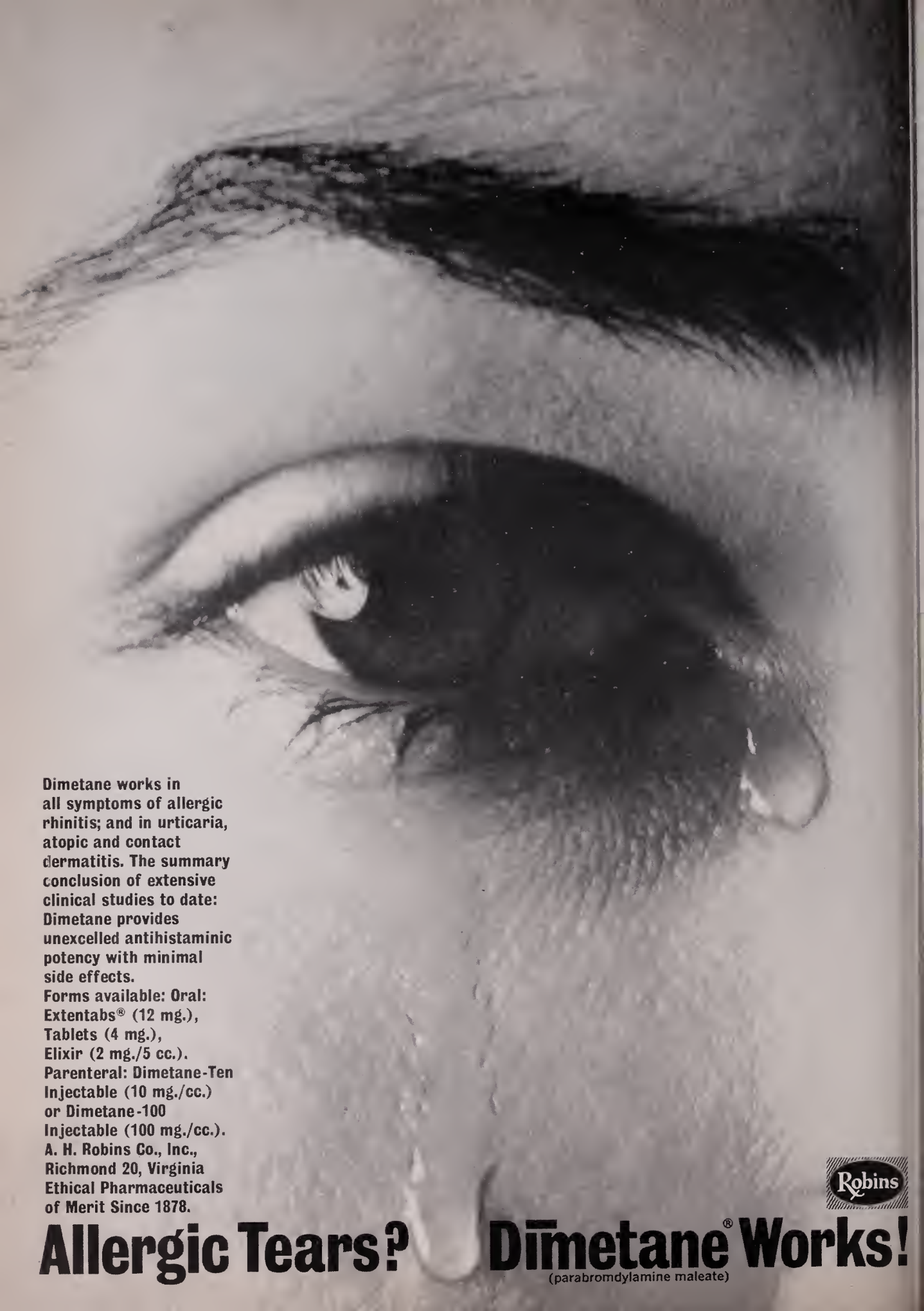
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Provides coverage for you, your wife and dependent, unmarried children between the age of fourteen days and twenty-three years. Protection up to \$10,000 within three years of accident or sickness is provided. The same amount is provided for any sickness for which payment has been made that occurs after an interval of twelve months.

The plan pays 100% room and board and 100% of the necessary charges for hospital care and treatment. It pays 75% of special nurse expense in the hospital. You have a choice of three deductible amounts to keep your premiums within the range you prefer and premiums remain level and do not increase with age.

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Pays direct to you the covered expense of maintaining your practice should you be disabled. Such payments would begin with the fifteenth day of disability and continue for as long as one year. Even included are such expenses as employee salaries, rent, prorated laundry, contributions, fees, dues, accountant services, depreciation, etc.

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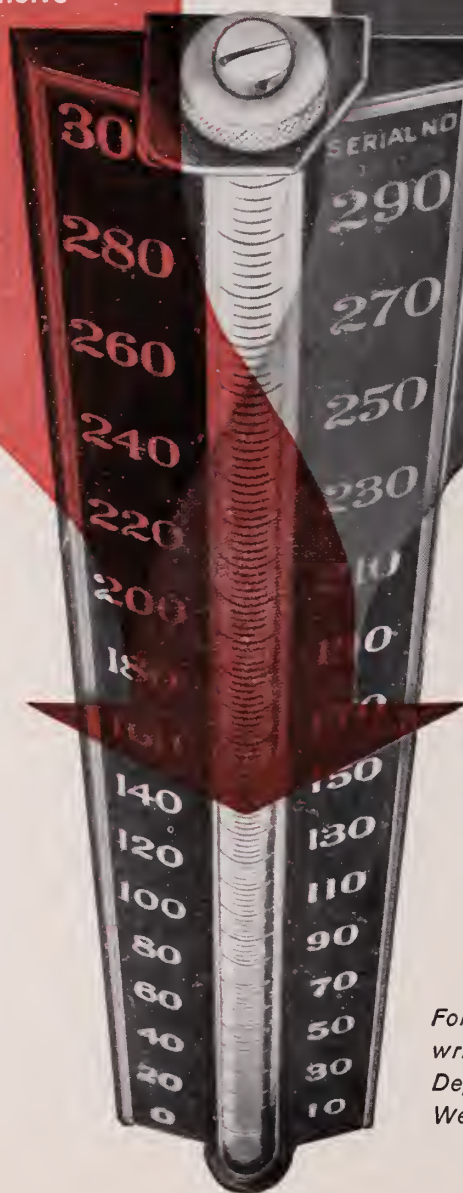
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antihypertensive

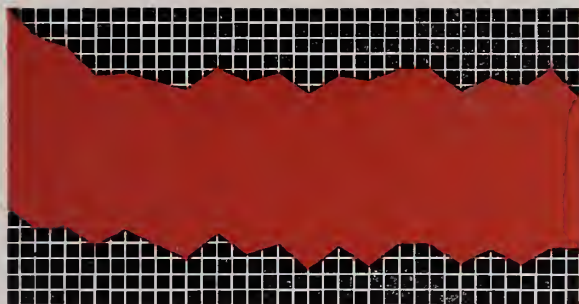
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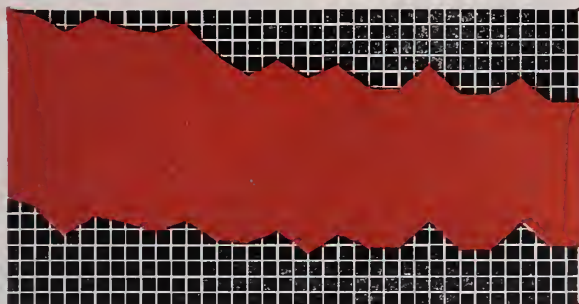
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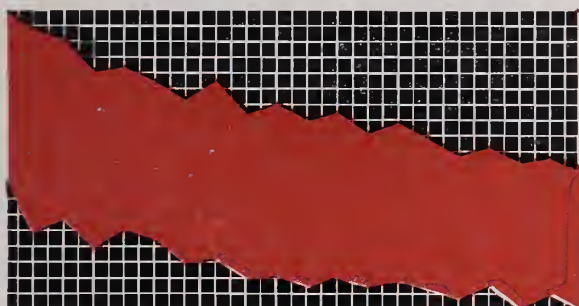
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much more effective
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- Effective by itself in a majority of patients. Provides smooth, more trouble-free management of hypertension.
- Since HYDRODIURIL and reserpine potentiate each other, the required dosage of each is lower when given together as HYDROPRES than when either is given alone.
- HYDROPRES provides the needed and valuable tranquilizing effect of reserpine. Lower dosage may reduce such side effects of reserpine as excessive sedation and depression.
- Arrest or reversal of organic changes of hypertension may occur.
- Headache, dizziness, palpitations and tachycardia are usually promptly relieved. Anginal pain may be reduced in incidence and severity.
- With HYDROPRES, dietary salt may be liberalized.
- Convenient, controlled dosage.

HYDROPRES-25

25 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one to four times a day.

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50 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one or two times a day.

If the patient is receiving ganglion blocking drugs or hydralazine,
their dosage must be cut in half when HYDROPRES is added.



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anti-emetic

greater specificity
of tranquilizing action
—divorced from such
"diffuse" effects as
anti-emetic action
—explains why



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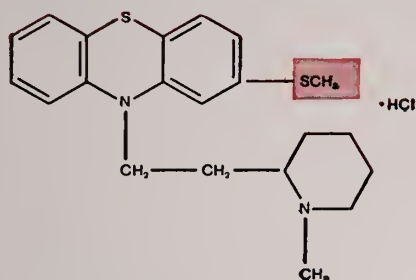
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is virtually free of such toxic effects as • jaundice • Parkinsonism • blood dyscrasia

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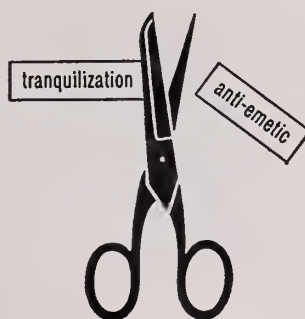
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greater specificity of tranquilizing action results in fewer side effects



The presence of a thiomethyl radical (S-CH₃) is unique in Mellaril and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:

- 1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.



- 2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.
- 3 A notable absence of extrapyramidal stimulation.
- 4 Lack of impairment of patient's normal drive and energy.
- 5 Virtual freedom from such toxic effects as jaundice, photosensitivity, skin eruptions, blood forming disorders.

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PSYCHIC RELAXATION
DAMPENING OF
SYMPATHETIC AND
PARASYMPATHETIC
NERVOUS SYSTEM

Minimal suppression of vomiting
Little effect on blood pressure
and temperature regulation



Psychic relaxation
Dampening of
sympathetic and
parasympathetic
nervous system

Strong suppression of vomiting
Dampening of blood pressure
and temperature regulation

other
phenothiazine-type
tranquilizers

INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANGE
ADULTS: Mental and Emotional Disturbances: MILD — where anxiety, apprehension and tension are present MODERATE — where agitation exists in psychoneuroses, alcoholism, intractable pain, senility, etc. SEVERE — in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.: Ambulatory Hospitalized	10 mg. t.i.d. 25 mg. t.i.d. 100 mg. t.i.d. 100 mg. t.i.d.	20-60 mg. 50-200 mg. 200-400 mg. 200-800 mg.
CHILDREN: BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.

MELLARIL Tablets, 10 mg., 25 mg., 100 mg.

Stefeld, A. M.: Scientific Exhibit, American Academy of General Practice, San Francisco, April 6-9, 1959





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"Good for you!"

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discomforts of
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ARTHROPAN Liquid... "born of a therapeutic need"... The need was for a better antiarthritic agent — an agent free of the therapeutic limitations and the discomforting or potentially dangerous side effects associated with usual therapies... Under development for several years, ARTHROPAN has been studied in several thousand patients by more than 180 investigators and is currently being evaluated in many different disorders... The rapid effectiveness, the comfortable and constant action, and the certain safety of new ARTHROPAN Liquid are established as clinical facts... ARTHROPAN breaks through therapeutic barriers and offers the arthritic patient new vistas in successful therapy of arthritis.

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quick relief
for poison ivy dermatitis, summer exacerbations of
skin allergies

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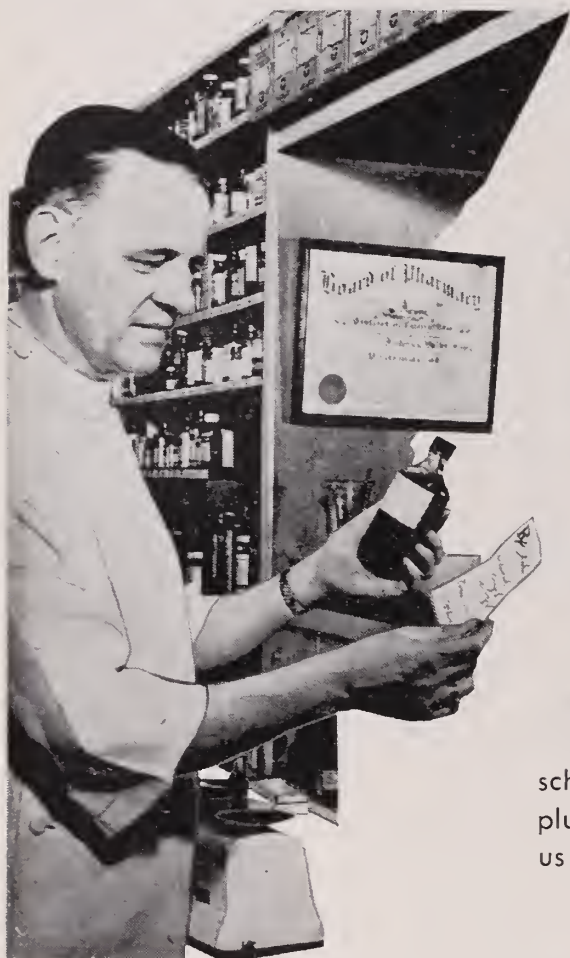
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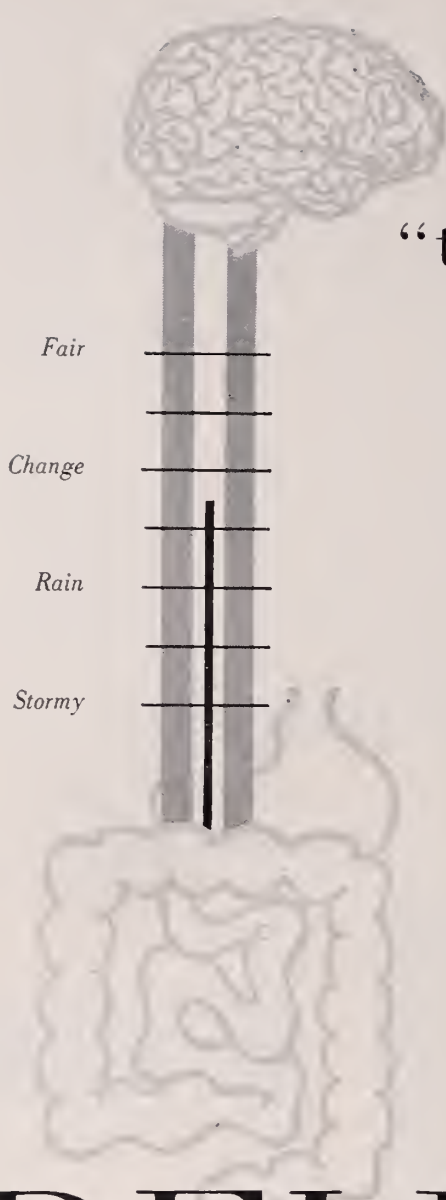
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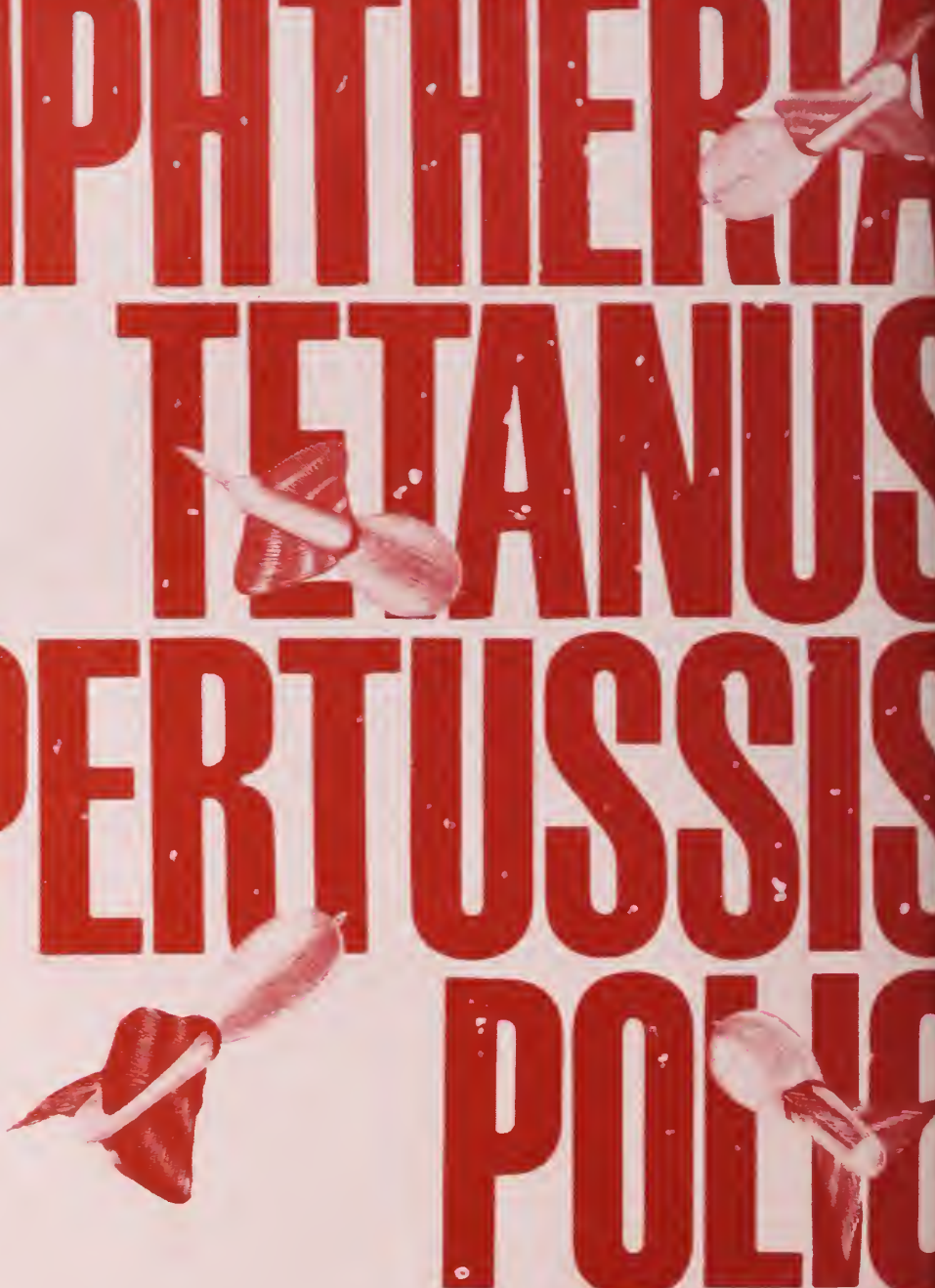


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*Barrett, C. D., Jr., *et al.*: *J.A.M.A.* 167:1103, 1958;
Ibid.; *Am. J. Pub. Health* 49:644, 1959.

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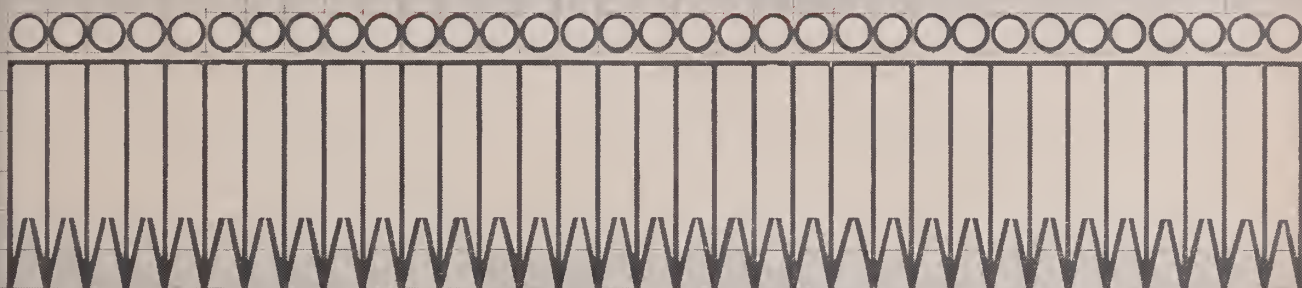
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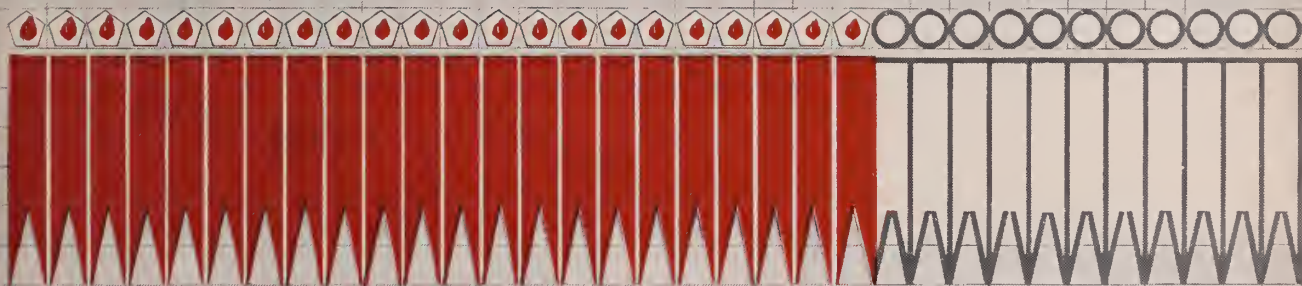
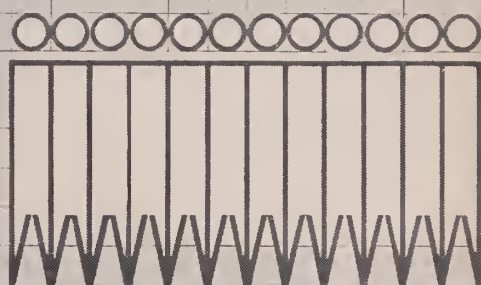
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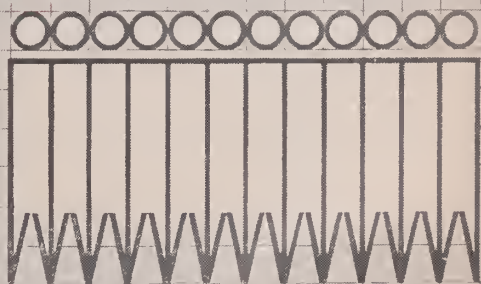
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1. Aviado, D. M. et al: J. Pharmacol. & Exper. Therap. 122: 406-417 (Mar.) 1958. 2. Laboratory Report: Research Div., Chas. C. Haskell & Co., 1959.

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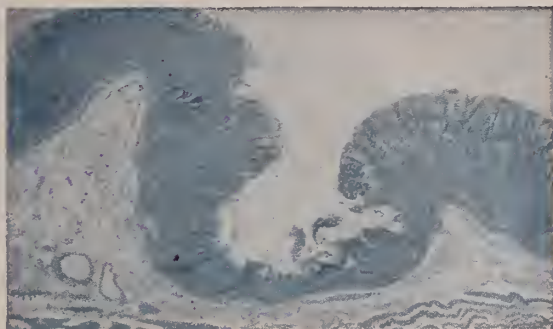
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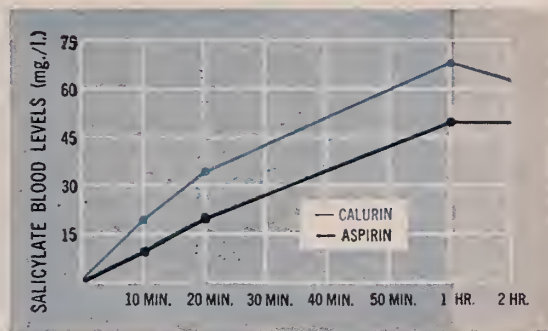
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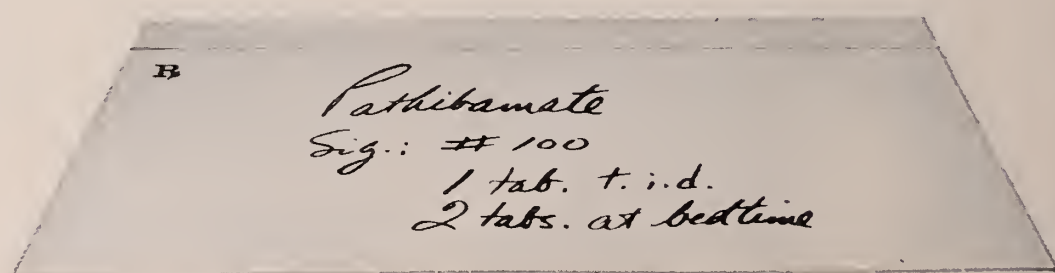
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REFERENCES: 1. Waterson, A. P.: Aspirin and gastric haemorrhage, *Brit. M. J.* 2:1531, 1955. 2. Douthwaite, A. H., and Lintott, G. A. M.: Gastroscopic observation of the effect of aspirin and certain other substances on the stomach, *Lancet* 2:1222, 1938. 3. Editorial Comments: The effect of acetylsalicylic acid (aspirin) on the gastric mucosa, *Canad. M. A. J.* 80:47, 1959. 4. Muir, A., and Cossar, I. A.: Aspirin and ulcer, *Brit. M. J.* 2:7, 1955. 5. Muir, A., and Cossar, I. A.: Aspirin and gastric haemorrhage, *Lancet* 1:539, 1959. 6. Schneider, E. M.: Aspirin as a gastric irritant, *Gastroenterology* 33:616, 1957. 7. Bayles, T. B., and Tenckhoff, H.: Salicylate therapy in rheumatic diseases, Scientific Exhibit, Ann. Mtg. A. M. A., San Francisco, Calif., June, 1958. 8. Batterman, R. C.: Comparison of buffered and unbuffered acetylsalicylic acid, *New Eng. J. M.* 258:213, 1958. 9. Cronk, G. A.: Laboratory and clinical studies with buffered and nonbuffered acetylsalicylic acid, *New Eng. J. M.* 258:219, 1958. 10. Editorial: Aspirin plain and buffered, *Brit. M. J.* 1:349, 1959. 11. Smith, P. K.: Plasma concentration of salicylate after the administration of acetylsalicylic acid or calcium acetylsalicylate to human subjects, Report submitted to Smith-Dorsey from Dept. of Pharmacology, Geo. Washington Univ. School of Medicine, Washington, D. C., Sept. 5, 1958.

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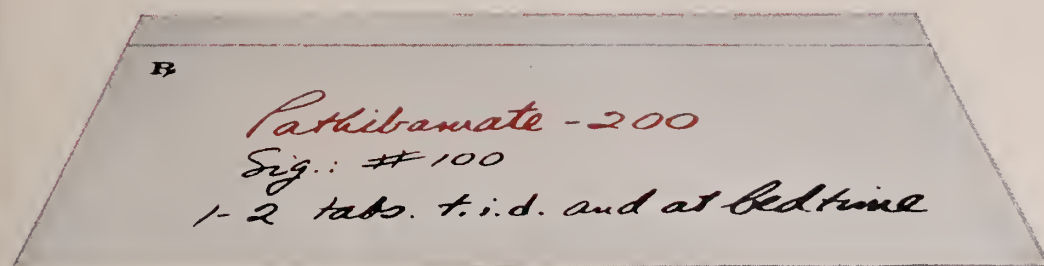
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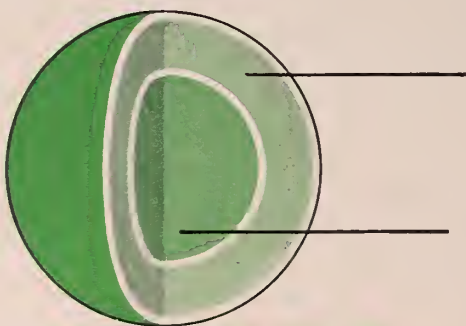
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Pancreatin, N.F.	300 mg.
Bile salts	150 mg.

DONNAZYMETM



A. H. ROBINS COMPANY, INCORPORATED • RICHMOND 20, VIRGINIA



Doctors, too, like "Premarin"®

THE doctor's room in the hospital is used for a variety of reasons. Most any morning, you will find the internist talking with the surgeon, the resident discussing a case with the gynecologist, or the pediatrician in for a cigarette. It's sort of a club, this room, and it's a good place to get the low-down on "Premarin" therapy.

If you listen, you'll learn not only that doctors like "Premarin," but *why* they like it.

The reasons are fairly simple. Doctors like "Premarin," in the first place, because it really relieves the symptoms of the menopause. It doesn't just mask them — it replaces what the patient lacks — natural estrogen. Furthermore, if the patient

is suffering from headache, insomnia, and arthritic-like symptoms due to estrogen deficiency, "Premarin" takes care of that, too.

"Premarin," conjugated estrogens (equine), is available as tablets and liquid, and also in combination with meproamate or methyltestosterone.

Ayerst Laboratories • New York 16, N. Y. • Montreal, Canada



day and night—ulcer control with **B.I.D.** dosage



Just one 10 mg. Daricon tablet in the morning, and one at night before retiring, keeps your patient free from the pain and discomfort caused by gastrointestinal spasm, hypermotility, and hypersecretion.

Daricon is a remarkably potent and well tolerated antisecretory/antimotility agent. Its *naturally* prolonged action provides day and night relief of pain and symptoms associated with peptic ulcer, functional bowel syndrome, biliary tract dysfunctions, and other gastrointestinal disorders characterized by spasm, hypermotility, and hypersecretion.

**EVEN REFRACTORY
CASES RESPOND**

new

DARICON^{*}

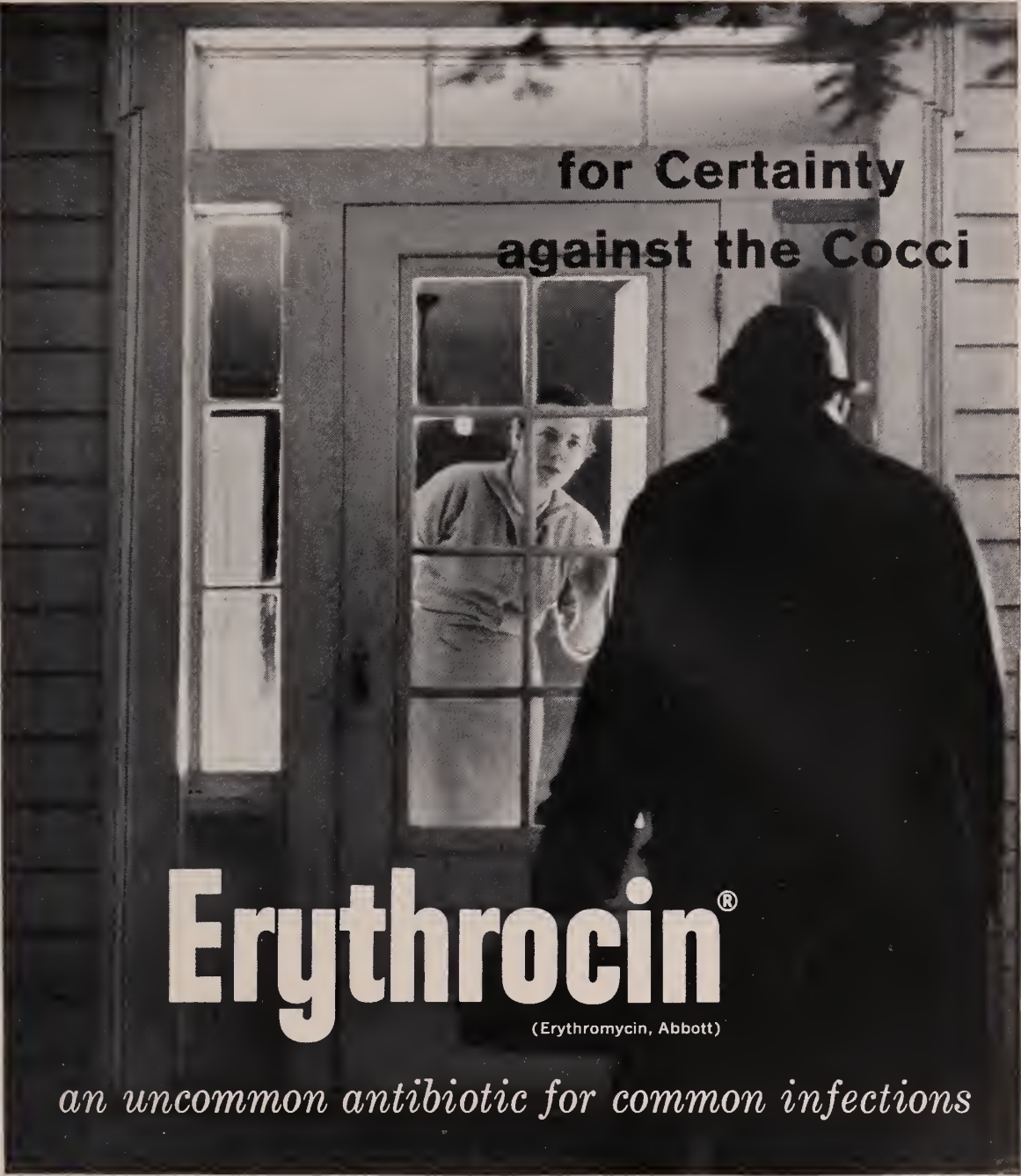
oxyphenacyclimine hydrochloride

Pfizer Science for the world's well-being[™]

Pfizer Laboratories
Division, Chas. Pfizer & Co., Inc.
Brooklyn 6, New York

References: 1. Finkelstein, M., et al.: J. Pharmacol. & Exper. Therap. 125:330 (April) 1959. 2. McHardy, G., et al.: Postgrad. Med., in press. 3. Winkelstein, A.: Amer. J. Gastroenterol., in press. 4. Finkelstein, M., et al.: Presented at Fall Meeting, Amer. Soc. Pharmacol. & Exper. Therap., 1958. 5. Leming, B.: Clin. Med. 6:423 (March) 1959.

^{*}Trademark



for Certainty
against the Cocci

Erythrocin[®]
(Erythromycin, Abbott)

an uncommon antibiotic for common infections

Provides fast, high blood and tissue concentrations—plus an unparalleled safety record. Erythrocin is available in easy-to-swallow Filmtabs[®] (100 and 250 mg.); in tasty, citrus-flavored Oral Suspension (200 mg. per 5-cc. teaspoonful); and for intravenous and intramuscular use.



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909132

Physicians Simply Cannot Afford Not to Enroll in these Insurance Plans Approved by The Medical Society of Virginia

Sometimes the physician neglects his own affairs while giving time and energy to the welfare of others. Undoubtedly that is a principal reason why some members of The Medical Society of Virginia have not availed themselves of the extraordinary advantages offered in the personal insurance programs which were recently approved by their own organization. Many members of the Society have taken advantage of the two low-cost group programs and both plans are in effect right now. You simply cannot afford to miss this opportunity for your own protection. Outstanding features of the two separate and distinct group plans include the following:

PLAN NUMBER ONE

Provides coverage for you, your wife and dependent, unmarried children between the age of fourteen days and twenty-three years. Protection up to \$10,000 within three years of accident or sickness is provided. The same amount is provided for any sickness for which payment has been made that occurs after an interval of twelve months.

The plan pays 100% room and board and 100% of the necessary charges for hospital care and treatment. It pays 75% of special nurse expense in the hospital. You have a choice of three deductible amounts to keep your premiums within the range you prefer and premiums remain level and do not increase with age.

PLAN NUMBER TWO

Pays direct to you the covered expense of maintaining your practice should you be disabled. Such payments would begin with the fifteenth day of disability and continue for as long as one year. Even included are such expenses as employee salaries, rent, prorated laundry, contributions, fees, dues, accountant services, depreciation, etc.

The premiums you pay under Plan No. 2 are tax deductible. Both plans are underwritten by American Casualty Company of Reading, Pennsylvania. Brochures have been mailed to all members of The Medical Society of Virginia. Please fill out your application and return it promptly.

David A. Dyer,
ADMINISTRATOR

*Medical Arts Building
Roanoke, Virginia*



Congratulations, chef . . . it's just right!

“Good for you!”

SIZZLING AND PERFECT! Now relax with your guests. Pour yourself a rewarding glass of beer. So good and satisfying . . . and it really picks you up, too. Beer goes so graciously, so naturally with a barbecue. And it's such a nice compliment to your good taste.

Beer Belongs—to the fun of living!



United States Brewers Foundation
CHARTERED 1862



Beer's rich in wonderful, healthful things. Nature's own choice barley malt, hops, minerals, and the purest water. Good wholesome beer or ale perks you up—won't let you down.

Pertinent information for doctors about

KENT'S SUPER-POROUS MICROPORE PAPER

With the intensive publicity being given to porous cigarette paper in recent weeks, Kent believes that doctors would be interested in knowing the scientific facts about the paper used in today's Kent cigarettes.

Kent's exclusive super-porous Micropore paper lets cool air in, lets heat escape through microscopic pores in the paper. The increased oxygen in the tobacco cylinder brings about more complete combustion of the tobaccos. As a result, Kent smokers have been getting a cooler, cleaner, fresher taste in smoking.

When the advantages of Kent's Micropore paper are coupled to Kent's other superiorities, it is easy to understand why more people, during the past year, changed to Kent

than to any other cigarette in America.

Kent smokers also enjoy a free and easy draw, which brings through the rich taste of Kent's costly blend of 100% natural tobaccos. In addition, Kent's exclusive Micronite Filter has made a significant contribution in the area of filtration: Kent has reduced tars and nicotine to the lowest level among all leading brands.

The American smoking public was quick to respond to Kent. They discovered—it makes good sense to smoke Kent, and good smoking, too.



If you would like for your own use the booklet, "The Story of Kent," write to:
P. Lorillard Company
Research Department
200 East 42nd Street
New York 17, N. Y.

Micropore is a Trade Mark of
P. Lorillard Co.
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For the flavor you like KENT FILTERS BEST

A Product of P. Lorillard Company—First with the finest cigarettes—through Lorillard Research!



now...a new way
to relieve pain and stiffness
in muscles and joints

- Exhibits unusual analgesic properties,
different from those of any other drug
- Specific and superior for relief of SOMATIC pain
- Modifies central perception of pain
without abolishing natural defense reflexes
- Relaxes abnormal tension of skeletal muscle

SOMA TM

N-Isopropyl-2-methyl-2-propyl-1, 3-propanediol dicarbamate

In back pain, bursitis, sprains, strains, and bruises, whiplash and other traumatic injuries, inflammatory and degenerative muscle and joint complaints.

Many patients report they feel better and sleep better with SOMA than with any previously used analgesic or relaxant drug.

SOMA often makes possible reduction or elimination of steroids, salicylates, sedatives and narcotics.

RAPID ACTING. Pain-relieving and relaxant effects start within 30 minutes and last for at least 6 hours.

NOTABLY SAFE. Toxicity is extremely low. No effects on liver, endocrine system, blood pressure, blood picture or urine have been reported. Some patients may become sleepy on higher than recommended dosage.

EASY TO USE. Usual adult dose is one 350 mg. tablet 3 times daily and at bedtime.

SUPPLIED: Bottles of 50 white sugar-coated 350 mg. tablets.

Literature and samples on request.

WALLACE LABORATORIES, NEW BRUNSWICK, N. J.



wherever there is inflammation, swelling, pain

VARIDASE[®]

Streptokinase-Streptodornase Lederle

BUCCAL Tablets

conditions for a fast & comfortable comeback

Host reaction to injury or local infection has a catabolic and an anabolic phase. The body responds with inflammation, swelling and pain. In time, the process is reversed. VARIDASE speeds up this normal process of recovery.

By activating fibrinolytic factors VARIDASE shortens the *undesirable phase*, limits necrotic changes due to inflammatory infiltration, and initiates the constructive phase to speed total remission. Medication and body defenses

can readily penetrate to the affected site; local tissue is prepared for faster regrowth of cells.

In infection, the fibrin wall is breached while the infection-limiting effect is retained. In acute cases, response is often dramatic. In chronic cases, VARIDASE Buccal Tablets can stimulate a successful response to primary therapy previously considered inadequate or failing.

*for routine use in injury and infection
...new simple buccal route*

VARIDASE Buccal Tablets should be retained in the buccal pouch until dissolved. For maximum absorption, patient should delay swallowing saliva.

Dosage: One tablet four times daily usually for five days.

When infection is present, VARIDASE Buccal Tablets should be given in conjunction with ACHROMYCIN[®] V Tetracycline with Citric Acid.

Each VARIDASE Buccal Tablet contains: 10,000 Units Streptokinase and 2,500 Units Streptodornase.

Supplied: boxes of 24 and 100 tablets.

1. Innerfield, L.: Clinical report cited with permission

2. Clinical report cited with permission



LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY
Pearl River, New York



FORCE INJURY
severe bruises
... swelling
... cleared
by fifth day²



**VARICOSE
ULCER**
15 years duration
... resolved with
VARIDASE¹



**INFLAMMATORY
DERMATOSIS**
rapidly spreading
rhus dermatitis
healed within
a week¹



**INFECTED
LACERATION**
marked reversal
in 3 days...
returned
to school...
closure advanced¹



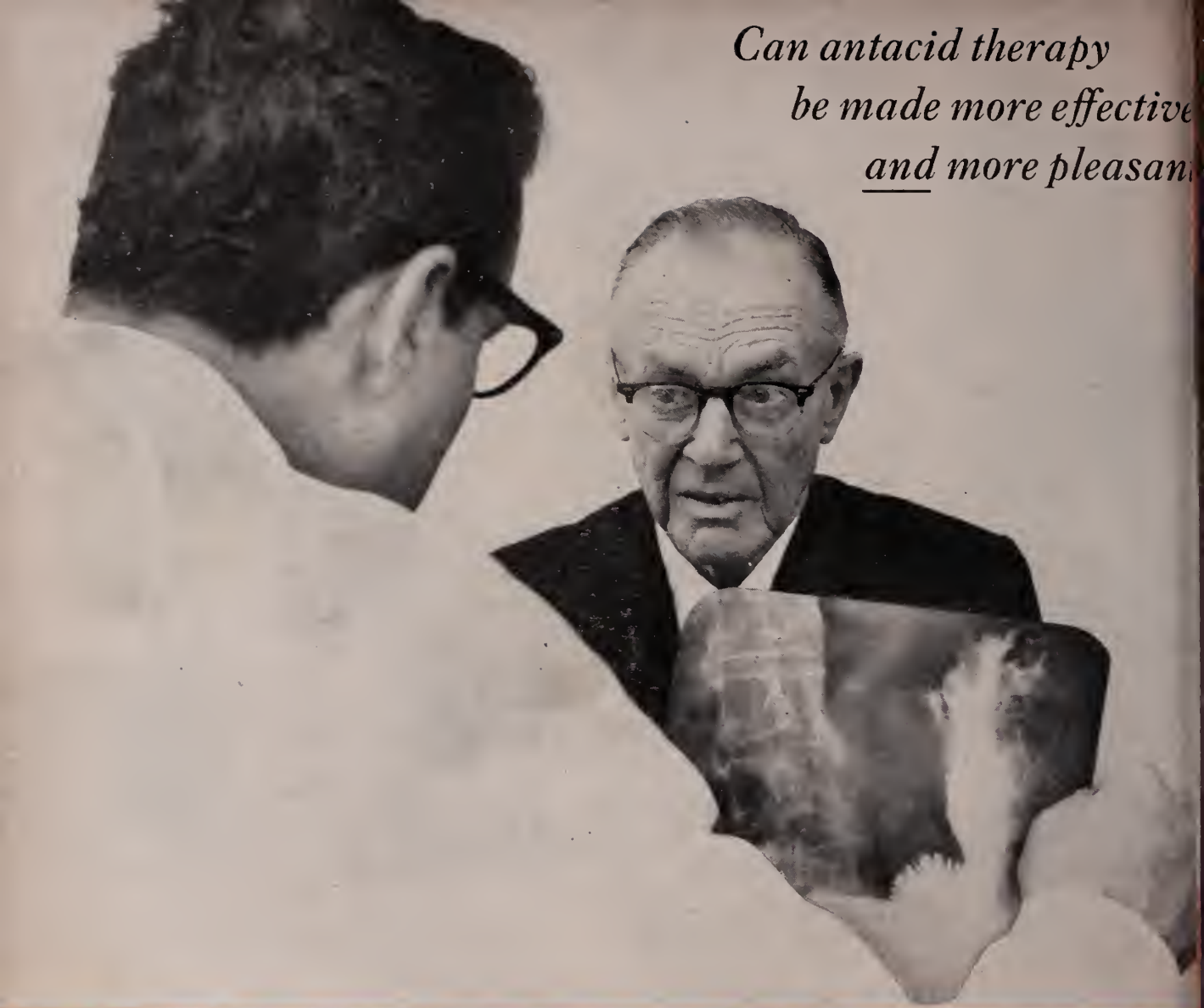
THROMBOPHLEBITIS
back on his feet
in a week after
recurrent episode¹



**REFRACTORY
CELLULITIS**
normal routine
resumed after 4 days
of VARIDASE¹



*Can antacid therapy
be made more effective
and more pleasant*



THE MOST SIGNIFICANT IMPROVEMENT IN
ANTACID THERAPY SINCE THE INTRODUCTION
OF ALUMINUM HYDROXIDE IN 1929

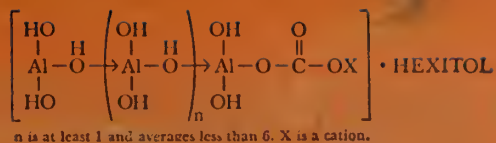
NEW

Creamalin[®] ANTACID TABLET

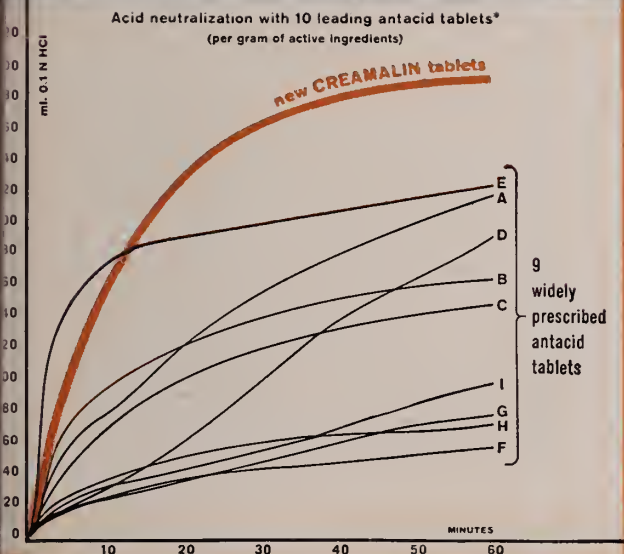
Each Creamalin Antacid Tablet contains 320 mg. specially processed, highly reactive, short polymer dried aluminum hydroxide gel, (stabilized with hexitol), with 75 mg. magnesium hydroxide.

- 1. Neutralizes acid faster (quicker relief)*
- 2. Neutralizes more acid (greater relief)*
- 3. Neutralizes acid longer (more lasting relief)*
- 4. No constipation • No acid rebound*
- 5. More pleasant to take*

a new high in effectiveness
and palatability

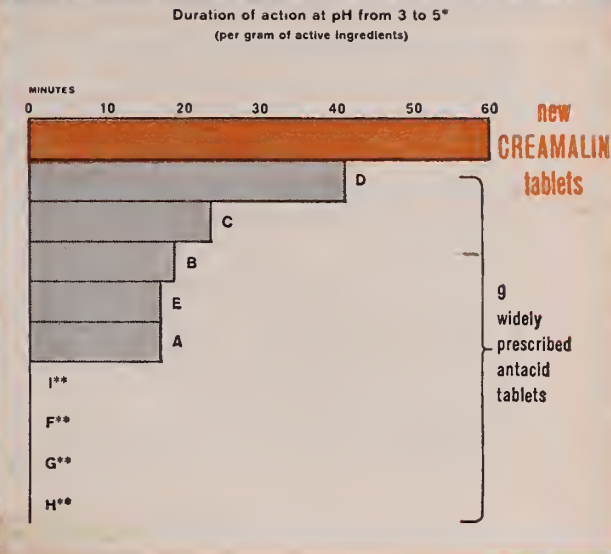


CREAMALIN NEUTRALIZES MORE ACID FASTER Quicker Relief • Greater Relief



Tablets were powdered and suspended in distilled water in a constant temperature bath (37°C) equipped with mechanical stirrer and pH electrodes. Hydrochloric acid was added as needed to maintain pH at 3.5. Volume of acid required was recorded at frequent intervals for one hour.

CREAMALIN NEUTRALIZES MORE ACID LONGER More Lasting Relief



*Hinkel, E. T., Jr., Fisher, and Tainter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.

**pH stayed below 3.

*Do antacids have to taste
like chalk?*



No chalky taste. New CREAMALIN tablets are not chalky, gritty, rough or dry. They are highly palatable, soft, smooth, easy to chew, mint flavored.

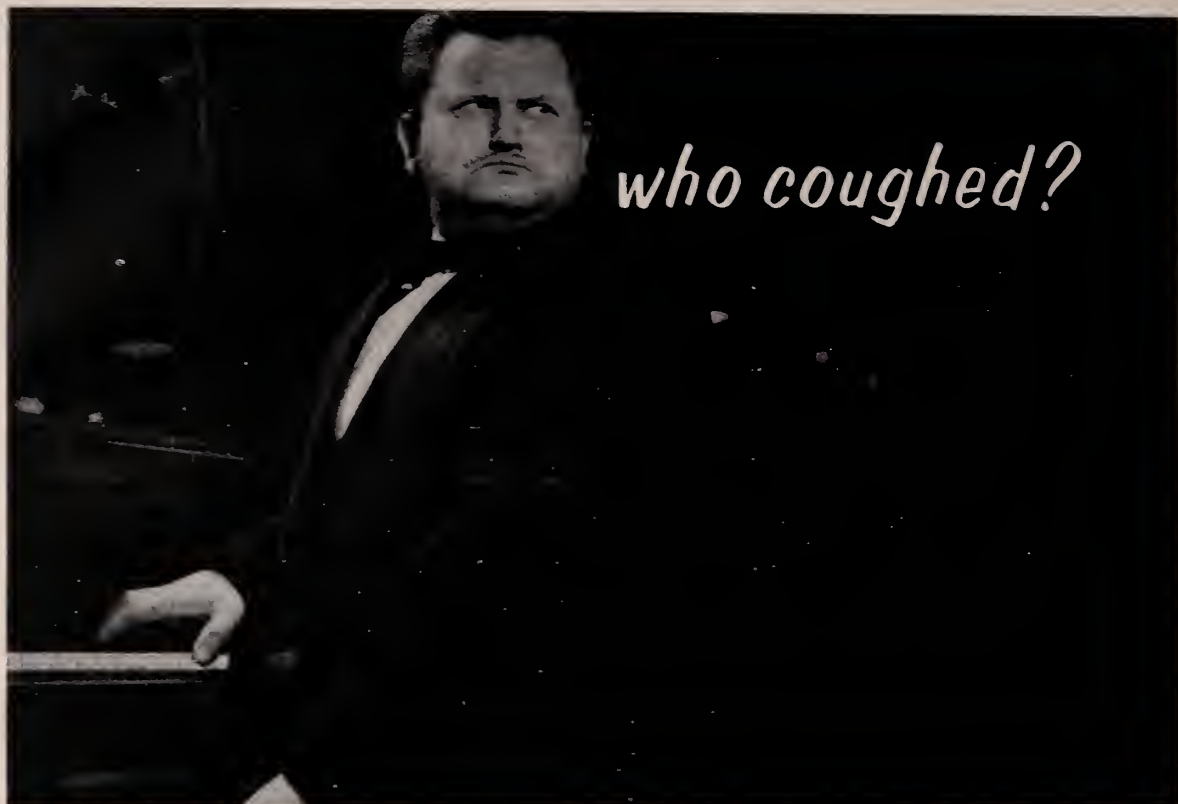
- NO ACID REBOUND • NO CONSTIPATION
- NO SYSTEMIC EFFECT

Adult Dosage: Gastric hyperacidity: 2 to 4 tablets as necessary. Peptic ulcer or gastritis: 2 to 4 tablets every two to four hours. Tablets may be chewed, swallowed with water or milk, or allowed to dissolve in the mouth.

Supplied: Bottles of 50, 100, 200 and 1000.

Winthrop

LABORATORIES • NEW YORK 18, NEW YORK



who coughed?

WHENEVER COUGH THERAPY IS INDICATED

Hycomine[®]

SYRUP

THE *complete* Rx FOR COUGH CONTROL

cough sedative/antihistamine/expectorant

- relieves cough and associated symptoms in 15-20 minutes • effective for 6 hours or longer
- promotes expectoration • rarely constipates
- agreeably cherry-flavored

Each teaspoonful (5 cc.) contains:

Hycodan[®]

Dihydrocodeinone Bitartrate	5 mg.	} 6.5 mg.
(Warning: May be habit-forming)		
Homatropine Methylbromide	1.5 mg.	
Pyrilamine Maleate		12.5 mg.
Ammonium Chloride		60 mg.
Sodium Citrate		85 mg.

Supplied: As a pleasant-to-take syrup. May be habit-forming. Federal law permits oral prescription.



Literature
on request

ENDO LABORATORIES Richmond Hill 18, New York

U.S. Pat. 2,630,400

Effective relief in rheumatic disorders

Sterazolidin[®] capsules
prednisone-phenylbutazone Geigy

Geigy

with less risk of disturbing hormonal balance



In the treatment of the rheumatic disorders new Sterazolidin provides a method of limiting the gravest danger inherent in steroid therapy... hypercortisonism arising from excessive dosage.

Repeatedly it has been shown that the addition of low dosage of Butazolidin sharply reduces hormone requirement.¹⁻⁴ Sterazolidin is a combination of prednisone (1.25 mg.) and Butazolidin (50 mg.) which provides, in the majority of cases, consistent relief at a stable uniform maintenance dosage significantly below the level at which serious hormonal imbalance is likely to occur.

Sterazolidin[®] (prednisone-phenylbutazone Geigy). Each capsule contains prednisone 1.25 mg.; phenylbutazone 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg. and homatropine methylbromide 1.25 mg.

1. Kuzell, W. C., and others.: Arch. Int. Med. 92:646, 1953. 2. Wolfson, W. Q.: J. Michigan M. Soc. 54:323, 1955. 3. Strandberg, B.: Brit. J. Phys. Med. 19:9, 1956. 4. Platt, W. D., Jr., and Steinberg, I. H.: New England J. Med. 256:823 (May 2) 1957.

Geigy, Ardsley, New York

03889

ATARAX


PASSPORT
TO
TRANQUILITY




Passport

 a universal record of effectiveness


In anxiety, tension and agitation, ATARAX "... produced a more favorable state of calm and tranquility than any drug previously used."¹

 widest latitude of safety and flexibility

No serious adverse reaction ever documented — five dosage forms and sizes

 chemically distinct among tranquilizers

Not a phenothiazine or a meprobamate

 added frontiers of usefulness

These unique benefits in specific indications

ANTIHISTAMINIC
ANTIARRHYTHMIC
ANTISECRETORY



Dosage: ADULTS, one 25 mg. tablet, or one tbsp. Syrup q.i.d. CHILDREN—3-6 years, one 10 mg. tablet or one tsp. Syrup t.i.d.; over 6 years, two 10 mg. tablets or two tsp. Syrup t.i.d.
Supplied: Tiny 10 mg., 25 mg., and 100 mg. tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

References: 1. Farah, L.: Internat. Rec. Med. 169:379 (June) 1956. 2. Smigel, J. O., et al.: J. Am. Geriatrics Soc. 7:61 (Jan.) 1959. 3. Feinberg, A. R., et al.: J. Allergy 29:358 (July) 1958. 4. Eisenberg, B. C.: J.A.M.A. 169:14 (Jan. 3) 1959. 5. Maryssael, L.: Bruxelles-méd. 38:141 (Jan. 26) 1958. 6. Pfleger, R.: Med. Klin. 53:1030 (June 5) 1958. 7. Over 200 laboratory and clinical papers from 14 countries.

ATARAX®

(brand of hydroxyzine)



New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being

In the menopause...
transition without tears



Milprem promptly relieves emotional distress
with lasting control of physical symptoms

Milprem®

Miltown®+conjugated estrogens (equine)

Supplied in two potencies for dosage flexibility:

MILPREM-400, each coated pink tablet contains 400 mg. Miltown (meprobamate) and 0.4 mg. conjugated estrogens (equine).

MILPREM-200, each coated old-rose tablet contains 200 mg. Miltown and 0.4 mg. conjugated estrogens (equine).

Both potencies in bottles of 60.

Literature and samples on request.

In minutes, Milprem starts to ease anxiety and depression. It relieves insomnia, relaxes tense muscles; alleviates low back pain and tension headache. As the patient continues on Milprem, the replacement of estrogens checks hot flushes and other physical symptoms.

Easy dosage schedule: One Milprem tablet t.i.d. in 21-day courses with one-week rest periods; during the rest periods, Miltown alone can sustain the patient.



WALLACE LABORATORIES, New Brunswick, N. J.

*nauseated or vomiting patients
respond quickly and routinely to*

Trilafon®

perphenazine

MUCH MORE ACTIVE ANTIEMETIC effect per milligram dosage than with other phenothiazines

MINUS the danger of significant hypotensive reaction

PLUS maintenance of alertness and regular activity

MINUS pain or irritation on deep IM injection

PLUS convenient administration with one of 5 dosage forms
(TRILAFON Injection, Suppositories, Syrup, REPETABS,® Tablets)

PROVED CONTROL OF VOMITING OR NAUSEA
ASSOCIATED WITH

INFECTION

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DRUG THERAPY

(e.g., digitalis, nitrogen mustard, aminophylline)

TOXICOSIS

(e.g., uremia, diabetic acidosis, leukemia, carcinomatosis)

MORNING SICKNESS

HYPEREMESIS GRAVIDARUM

OPERATIVE PROCEDURES

MENIERE'S SYNDROME

RADIATION SICKNESS

PSYCHOGENIC PHENOMENA

S-273

SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY

Schering





NIAMID^{*}

the mood brightener

Lifts the
burden of
depression...
opens the way
for a sunnier
outlook

New areas of therapy

NIAMID is clinically effective in a broad range of depressive states, including: involutional melancholia, senile depression, postpartum depression, reactive depression, the depressive stage of manic depressive disease, and schizophrenic depressive reaction.

A wide variety of psychoneurotic depressions seen in general practice also respond effectively to NIAMID. Depression associated with the menopause and with postoperative states, and depression accompanying chronic or incurable diseases such as gastrointestinal and cardiovascular disorders, arthritis, and inoperable cancer, can now be treated successfully with NIAMID.

NIAMID is also strikingly effective for many complaints, mild or severe, vague or well defined, whether due to masked depression rather than to organic disease. This masked depression may take the form of guilt feelings, crying spells or sadness, difficulty in concentration, loss of energy or drive, insomnia, emotional fatigue, feelings of hopelessness or helplessness, loss of interest in normal activity, listlessness, apprehension or agitation, and loss of appetite and weight.

While tranquilizers have had some measure of effectiveness in many of these areas, NIAMID now gives the practicing physician a new, safe drug for the specific treatment of depression without the risk of increasing the depressive symptoms.

New safety

NIAMID, in extensive clinical trials, has not been associated with the hepatotoxic reactions observed with the first of the monoamine oxidase inhibitors. These reactions have not been seen with NIAMID.


Acute and chronic toxicity studies show this distinctive freedom from toxicity. Moreover, during the extensive clinical trials of NIAMID by a large number of investigators, not only has no liver damage been reported, but only in a very few isolated instances have hypotensive effects been seen.

The absence of toxicity may be the result of the unique carboxamide group in the NIAMID molecule. This structure may explain why NIAMID is excreted largely unchanged in the urine, with only insignificant quantities of potentially free hydrazine being formed. Previously, where a monoamine oxidase inhibitor had been associated with hepatic toxicity, there was some evidence that substantial quantities of free hydrazine were formed in the body.

Background of NIAMID

A major advance in the treatment of mental depression came with a newer understanding of the influence of brain serotonin and norepinephrine on the mood. Levels of both these neuro-hormones are decreased in animals under experimental conditions analogous to depression; relief of these model depressions is seen with a rise in the levels of both serotonin and norepinephrine.

A second advance came with the development of monoamine oxidase inhibitors, substances which raise the cerebral level of both serotonin and norepinephrine. The first of the amine oxidase inhibitors raised the cerebral level of serotonin, but did not appear to raise that of norepinephrine level proportionately.

 **Pfizer** Science for the world's well-beingTM
PFIZER LABORATORIES

Division, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y.

^{*}TRADEMARK FOR BRAND OF NIALAMIDE



Attention at Pfizer Research was then directed to a new drug that would overcome this disadvantage. NIAMID significantly raises the cerebral level of *both* serotonin and norepinephrine under experimental conditions.

The dramatic discovery of NIAMID now makes available an extremely effective, safe antidepressant for the successful treatment of a full range of depressive states.

Precautions

Side effects are most often minor and mild manifestations of central nervous system stimulation, modifiable by reduction in dosage; these may take the form of restlessness, insomnia, headache, weakness, vertigo, dry mouth, and perspiration. Care should be taken when NIAMID is used with chlorothiazide compounds, since hypotensive effects have been noted in some patients receiving combined therapy—even though hypotension has rarely been noted with NIAMID alone. There has been no evidence of liver damage in patients on NIAMID; however, in patients who have any history of liver disease, the possibility of hepatic reactions should be kept in mind.

Dosage and Administration

Start with 75 mg. daily in single or divided doses. After a week or more, revise the daily dosage upward or downward, depending upon the response and tolerance, in steps of one or one-half 25 mg. tablet. Once satisfactory response has been attained, the dosage of NIAMID may be reduced gradually to the maintenance level.

The therapeutic action of NIAMID is gradual, not immediate. Many patients respond within a few days, others satisfactorily in 7 to 14 days. Some patients, particularly chronically depressed or regressed psychotics, may need substantially higher dosages (as much as 200 mg. daily has been used) and prolonged administration before responses are achieved.

Supply

NIAMID is available in: 25 mg., pink, scored tablets in bottles of 100; and 100 mg., orange, scored tablets in bottles of 100.

References

Complete bibliography and Professional Information Booklet are available on request.

*TRADEMARK FOR BRAND OF NIALAMIDE

 **NIAMID**
the mood brightener

What your Patients can Expect from **PEOPLES DRUG STORES** *Prescription Departments—*



- Complete, up-to-date stock of the most modern drugs, as well as all the older drugs now being prescribed.
- Only fresh, high-quality drugs are used in filling their prescriptions.
- Every prescription is checked, not once, but twice, to assure the utmost in accuracy and safety.
- They can rest assured that their prescription is filled exactly as the physician prescribes.
- They always pay a fair price for prescriptions at Peoples, because of the unique price schedule in use in all of our stores. Volume buying, plus this up-to-the-minute price schedule, often enable us to pass along substantial savings to your patients.

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24 Hours a Day
RICHMOND, VIRGINIA
Boulevard and Broad Streets
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waterloo for an ulcer...

Napoleon exhibited ulcer symptoms through most of his adult life, yet he scorned medication for his everlasting "spasms of nervous origin." He ignored his infirmities with violent naïveté despite an intense interest in medical science. Thus, the classic hand-in-coat pose may have been the result of his paroxysms of gastric pain that sliced "like the stab of a penknife."

When your patient is besieged with an ulcer, Robins provides you with an armamentarium sufficient to repel it.

Frontal assault — If your tactics dictate Local Action, try **ROBALATE**,[®] which is dihydroxy aluminum aminoacetate (0.5 Gm. per tablet or 5 cc.), an antacid of definitely superior efficacy.

Encirclement — If you prefer to approach the ulcer Systemically, prescribe **DONNATAL**,[®] the anticho-

linergic-antispasmodic-sedative with the time-tested *natural* belladonna alkaloids and phenobarbital, a veteran campaigner without peer. **FORMULA**: hyoscyamine sulfate, 0.1037 mg.; atropine sulfate, 0.0194 mg.; hyoscine hydrobromide, 0.0065 mg.; and phenobarbital (1/4 gr.), 16.2 mg.

multi-pronged attack — If you relish the strategy of combining antacid and antispasmodic-anticholinergic effects, use **DONNALATE**[®]. It combines one-half of a **DONNATAL** tablet with one **ROBALATE**, ideal allies for comprehensive ulcer therapy.

Victory will be yours.

A. H. ROBINS CO., INC. • RICHMOND, VA.

DONNALATE[®]



new hope for fetal salvage

DELA

The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifenstein¹ in a compilation of data supplied by 45 investigators. Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,² in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy

64% of 42 pregnancies were salvaged by progesterone

83% of 73 pregnancies were salvaged by Delalutin

Eichner,³ found that in Delalutin-treated women, fetal salvage of infants below term

weight (1000 to 2000 gm.) was significantly improved. 108 (76%) of 142 babies of this birth weight survived without mothers receiving progestational therapy, while 16 (100%) of 16 babies of this birth weight survived with mothers receiving Delalutin therapy. A comparison study was made of a group of repeated aborters treated with Delalutin, and a group with a similar history treated with bed rest and sedation.⁴ Pregnancy salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active", well-tolerated and long-acting.

According to Tyler and Olson,⁵ "These qualities of prolonged action and relative freedom from local reactions make [Delalutin] a generally more desirable therapeutic agent for intramuscular use than progesterone . . ."

DELALUTIN BABIES WHOSE MOTHERS WERE HABITUAL ABORTERS



Mary Ann Cribben
Garden City, N. Y.



Amy Sue Greenman
Lincolnwood, Ill.



William Peller
Skokie, Ill.



Randy Sinis
Denver, Colo.



Richard Miller
Denver, Colo.



Scott Knudsen
Norwich, Vt.

References: 1. Reifenstein, E. C. Jr.: *Annals N. Y. Acad. Sc.* 71:762 (July 30) 1958. 2. Boschann, H. W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. & Gynec.* 76:279, 1958. 5. Tyler, E. T., and Olson, H. J.: *J.A.M.A.* 169:1843, 1959.

DELALUTIN

*improved
progestational
therapy*

SQUIBB HYDROPROGESTERONE CAPROATE

DELALUTIN offers these advantages over other progestational agents:

- long-acting sustained therapy
- more effective in producing and maintaining a completely matured secretory endometrium
- no androgenic effect
- more concentrated solution requiring injection of less vehicle
- unusually well-tolerated, even in large doses
- fewer injections required
- low viscosity makes administration easier

DELALUTIN is also potent and safe therapy for: threatened abortion; postpartum after-pains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

Administration and dosage:

Because of its low viscosity, Delalutin may be administered with a small gauge needle (deep intragluteal injection). Complete information on administration and dosage is supplied in the package insert.

Supply:

Delalutin is available in vials of 2 and 10 cc., each containing 125 mg. of hydroxyprogesterone caproate in sesame oil, and benzyl benzoate.

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CITED REFERENCES: 1. Clark, G. M.: Personal Communication, 1958. 2. Feldman, H. A.: Personal Communication, 1958. 3. Scully, F. J.: Treatment of Rheumatic Disorders with Choline Salicylate (to be submitted for publication). 4. Friedland, C. K.: Personal Communication, 1958. 5. Complete data available on request to the Medical Director.

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Bibliography: (1) Riehl, G.: Griseofulvin: An Orally Active Antibiotic, presented at Austrian Dermat. Soc. Meet., Vienna, Nov. 27, 1958. (2) Williams, D. I.; Marten, R. H., and Sarkany, I.: *Lancet* 2:1212, 1958. (3) Blank, H., and Roth, F. J., Jr.: *A.M.A. Arch. Dermat.* 79:259, 1959. (4) Goldfarb, N., and Rosenthal, S. A.: *Current M. Digest* 26:67, 1959. (5) Reiss, F.: *Medical Circle Bulletin* 6:9, 1959. (6) Robinson, H. M., Jr.; Robinson, R. C. V.; Bereston, E. S.; Manchey, L. L., and Bell, F. K.: Griseofulvin, Clinical and Experimental Studies, presented at Am. Dermat. Assoc. Meet., Atlantic City, N. J., June 3, 1959.

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Guest Editorial

Our Challenge for Tomorrow

THERE SEEMS TO EXIST a strange paradox in medicine. The faster medicine advances scientifically, the faster the feeling of friendship between the physician and his patients deteriorate from the beloved image of the country doctor.

Out of this erosion there is developing—it seems to me—a public attitude which under political and economic pressures can be dangerous for our profession even if we as individuals were so unconcerned as not to care what others think of us.

In the end, it is not whether we as doctors are at fault, or whether the blame can be laid at the doorsteps of modern life, breeding deep-seated uneasiness, that is reflected in the public's mood.

Whatever the cause may be, I am afraid too many patients today look upon their doctor as they do the manager of the neighborhood supermarket—that they seek medical service in the same frame of mind they buy a suit of clothes, a new automobile or a refrigerator.

You and I know more patients than we like to admit, who feel that doctors' fees are too high. Out of this feeling is emerging the public image of all doctors as men of wealth—men who become doctors, not to serve humanity, but because of the economic opportunities it offers.

According to a national survey reported in *The Public Pulse*, more parents would like for their sons to take up medicine as a career than any other profession or business—as reported in order of preference, medicine 27%, business 24%, science 22%, teaching 8%, law 8%, politics 2% and those with no opinion 9%.

There were nearly thirty thousand young men enrolled in medical schools in the United States last year. If we could search their hearts, I wonder how many we would find turned to medicine for what they could give—not in hope of what they could get.

You know and I know that the attitude of some of our younger physicians, unhappily, indicates too much concern for the latter objective.

The public's image of us can be a cancerous thing.

We must do what we can—each in his own way—to improve the public's attitude toward the medical profession. The erosion is not all our fault and, unhappily, there

is no undisputable way to make the American people collectively think highly of our profession.

This brings me to the thought I have—which is by no means a new thought.

The threat of socialized medicine is with us always.

I hope, as I know you do, that it still will be only a threat to those who follow us in medicine—not a reality of their practice.

The medical profession is not an island unto itself. Doctors alone—because numerically we are weak—cannot hold back the tides of public opinion.

Also, we as doctors are not immune to the economic laws of the market place. The same economic laws based on the public's willingness—or financial ability to pay—apply to us just as they do to the corner groceryman.

What I want to say—and say in all sincerity—is that today, I believe the principle of voluntary medical and hospital insurance stands between us as a profession and the realities of socialized medicine in the United States with its accompanying evils.

You and I know that group hospital insurance was conceived originally as a plan to provide medical care for families in the low and medium income groups.

Today this idea, which some in our profession feared as the opening wedge for socialized medicine is providing protection, or at least partial protection, for an estimated 125 million Americans. Payments to doctors and hospitals last year from these insurance funds neared the 4 billion dollar mark.

I ask you—could doctors and hospitals have collected all of this money without some of the harassments that breed ill will and sow the seeds that can reap socialized medicine?

The danger that lies ahead for us is that the very segment of our people that group hospitalization was designed to protect, is being squeezed out by the rising cost of premiums. It is in this group that advocates of socialized medicine find a sympathetic audience. If rising premium costs squeeze out the lower middle income group, the medical profession is in real danger.

Medical costs—like the cost of material things of the market place—cannot be controlled alone by the medical profession any more than the corner groceryman alone can control the price of eggs.

But, I believe, there is one thing we can do. We can—and we must—do everything we can to protect the principle of voluntary health insurance.

We must not tolerate chiseling—either by patients or by the few within our profession who are looking for a fast dollar. We must do everything we can to help keep down the nation's total bill for medical care and hospitalization.

Let us not put a patient in the hospital unless it is necessary—something that I am sure only a few, and a very few, among us would do. Likewise there is no room in this critical situation for doctors who perform unnecessary services just because the patient has insurance. They are our enemy within.

Chiselers, be they patients or doctors, while small in number, can be the weak links in the chain that stands between us and socialized medicine.

Much has been said and written about the days of the so-called "country doctor" and his virtues.

Certainly we, as practitioners, no less than the public revere the devotion to medicine that he symbolizes in the patient's eye. Nor do we discount his contribution to medicine.

But this is the 20th century—the last half, I might add. And in this age of hospitals in nearly every community, quick transportation, and the techniques of modern medicine, there is seldom the need for the night-long vigils by the bedside which endeared the "country doctor" to those he served.

Nor do we believe patients today want or expect this type of care. Quick results, like the automatic service of the market place, is the demand of our times.

Unquestionably what the public calls "wonder drugs" and modern medical practice have been a major factor in robbing us of the patient-doctor relationships nourished in the long familiarities of the family doctor.

But they have not necessarily robbed us of the warmth and understanding that endeared the family doctor to those he served. They are still within us—to give if we will.

A patient is not dependent on us, we are dependent on him. Therefore, he deserves the most courteous care which we are capable of giving him. He is the person who makes it possible for us to earn a living. In some offices and clinics, the indifferent attitude toward the patient would certainly help to make us realize how little we are doing to improve the feeling that exists between the doctor and patient—tomorrow may be too late.

While we, as practitioners of a specialty, cannot be the old-time family doctor—even if the clock were rolled back—we, in the time we are treating a patient, can be as interested in him as an individual as we are in his ailment.

In this important way, we can make a contribution toward the preservation of medical practice—the time honored patient-doctor relationship as we know it today and want it tomorrow.

In the final analysis, whether America unhappily turns to socialized medicine, depends on what the American people collectively think of the medical profession. And what the American people think of our profession is *what they think* of their doctor.

The medical profession's battle against the continuous threat of socialized medicine will not be won on Madison Avenue with advertising, because advertising will not sell a product the American people do not want.

It will not be won by our representatives in Washington.

It will be won in our offices—yours and mine.

If America next year—the year after, or ever—accepts the false hope of socialized medicine, the shame will be ours. We will have failed because it was we who held in our hands the ways and means of preventing government administered medicine.

CALVIN T. BURTON, M.D.

30½ Franklin Road
Roanoke, Virginia

Clinical and Community Implications of Chronic Illness in the Aging Process

JOHN P. LYNCH, M.D.
Richmond, Virginia

I CAME by my interest in the problem of the aging almost by accident. As an infant I was transferred to St. Petersburg, Florida, the recognized geriatric capital of the United States. During my youth I was privileged to observe thousands of retired senior citizens in a setting geared to pleasant passing of time not of the dynamic variety but more of the passive type. Here, in an ideal climate old folks, most of whom had at least subsistent funds, came to spend their declining years, trying to make themselves happy by enjoying the sun, the ample recreational facilities of a city equipped to their special needs and the companionship of their peers. Many adapted themselves to this environment very happily. For others, this type of living seemed but stagnation, indolence, and boredom. The level at which one lives in his youth and middle age determines the level at which the declining years can bring satisfaction. In age one becomes more and more like he or she always was perhaps at even an accelerated rate as he or she becomes older.

This truth is so well illustrated in Plato's Republic which I think is worth quoting at this point.

"There is nothing which for my part I like better, Cephalus, than conversing with aged men; for I regard them as travelers who have gone a journey which I too may have to go, and of whom I ought to inquire, whether the way is smooth and easy, or rugged and difficult. And this is a question which I should like to ask of you who have arrived at that time which the poets call the 'threshold of old age'—Is life harder towards the end, or what report do you give of it?

"I will tell you, Socrates, he said, what my own feeling is. Men of my age flock together; we are birds of a feather, as the old proverb says; and at our meetings the tale of my acquaintance commonly is—I can not eat, I can not drink; the pleasures of youth and love are fled away; there was a good time once, but now that is gone, and life is no longer life. Some complain of the slights that are put upon them by relations, and they will tell you sadly of how many evils their old age is the cause. But to me, Socrates, these complainers seem to blame that which is

not really in fault. For if old age were the cause, I too being old, and every other old man, would have felt as they do. But this is not my own experience, nor that of others whom I have known. How well I remember the aged poet, Sophocles, when in answer to the question, How does love suit with age, Sophocles,—are you still the man you were? Peace, he replied; most gladly have I escaped the thing of which you speak; I feel as if I had escaped from a mad and furious master. His words have often occurred to my mind since, and they seem as good to me now as at the time when he uttered them. For certainly old age has a great sense of calm and freedom; when the passions relax their hold, then, as Sophocles says, we are freed from the grasp not of one mad master only, but of many. The truth is, Socrates, that these regrets, and also the complaints about relations, are to be attributed to the same cause, which is not old age, but men's characters and tempers for he who is of a calm and happy nature will hardly feel the pressure of age, but to him who is of an opposite disposition youth and age are equally a burden."

Although old age and chronic disease are not synonymous, research in the aging process has disclosed much that is helpful in the attack on chronic disease and vice versa.

I like to think of life's training course as divided into the four phases commonly employed in the training of a soldier. First is enlistment which might be compared to conception. Here forces beyond the control of the individual to be born suddenly, and without his consent or knowledge, bring him into the army of the living. Secondly, comes boot training which, in life, is the period of infancy and childhood. Here, the individual is processed both physically and mentally for further training. It is in this field of life's preparation that the public health officer, and the pediatrician have made outstanding contribution to lengthening the life span. The child is given inoculations for diphtheria, whooping cough, tetanus, typhoid, poliomyelitis, and he can be protected from many other infectious diseases by proper sanitation, protection of milk supply, water sources and food supplies. To you in public health we owe these constant silent safeguards. To the public this

Read at the Virginia Public Health Conference Roanoke, May 7, 1959.

role may not seem particularly glamorous but without these safeguards many of us would not be alive today to worry about longevity or chronic disease.

The third phase of a soldier's training is more advanced. He is placed in battle training with live ammunition whizzing over his head. This I like to think of in life as the great infectious disease barrier. In 1900 the leading causes of death in the United States were tuberculosis, pneumonia, diarrhea and enteritis, and heart disease. Today heart disease, cancer, accidents and violence, and cerebral hemorrhage make up the four greatest causes of death. We have virtually eliminated the infectious disease barrier in our own life's course of training. We have learned how to protect ourselves from their live bullets. Thus the most of our life's soldiers emerge from this barrier for the most part unscathed. It is true that this barrier of infectious disease still kills and we must ever be alert to new type of ammunition used against us on this course. I refer to the most recently dangerous one, that is, the staphylococcus. With few exceptions such as rheumatic fever and syphilis no drastic long-term injury results from this barrier.

The fourth phase of our life's training course is the one that we are particularly interested in today. This I choose to call the chronic disease barrier. This is the soldier's real battle experience. This course is tricky because it not only kills but worst of all maims without killing and may cause the poor afflicted soldier to wallow in the mire of physical and mental inadequacy for the rest of his existence. He may not only suffer himself but his incapacity may bring grief and sorrow to all his family, and expense to the society in which he was enlisted in the first place. This is the barrier which confronts us today. Will we be as successful in overcoming this barrier as we were in infectious disease barrier? I think we may, at least in a partial degree, but I am sure you will agree with me that the technique must be entirely different. We must learn more about the physiology of normal tissue metabolism, about the biology of senescence, about attitudes instead of dollars.

Just what do we mean when we talk about chronic disease? We usually refer to the circulatory disorders whether they be of heart, head or kidney, to metabolic disorders such as diabetes, anemia, gout, prostatic disease and cataracts, malignant tumors, the arthritides and nutritional disease such as pellagra and other avitaminoses.

The number of people becoming chronically ill

at various ages is an interesting commentary on the growth of this problem. At age thirty, six out of every thousand people are chronically ill, or invalided. At age forty, ten; at age fifty, fifteen; age sixty, twenty-eight; and at age seventy, fifty persons per thousand are chronically ill or invalided. In 1901, 53 per cent of all deaths were due to chronic illness. By 1945, 82 per cent of all deaths were due to chronic disease.

The per capita requirement for hospital care for persons sixty-five years of age or older is four times as much as those under sixty-five. At present 8.4 per cent of the population requires 26.5 per cent of the total hospital facilities and by 1970 it is predicted that 11.3 per cent of the population will be sixty-five years of age or older and will require 34 per cent of the total hospital facilities. Stating the problem in a different way, we find that in 1940 26.5 per cent of the population, that was the percentage over forty-five years of age, required 50 per cent of all hospital care. By 1980 it is predicted that 50 per cent, or almost twice as many people will be forty-five years of age or older.

Estimates for 1954 by the United States Public Health Service indicated that there are 14,500,000 from 14 to 65 years of age with some chronic disease or impairment. Of these about 3,200,000 are totally disabled. The other 11,300,000 are non-disabled persons who are, however, somewhat handicapped for various activities but who are capable of rehabilitation.

Of those sixty-five years of age and older 47 per cent have a chronic disease or impairment; 10 per cent are permanently unable to work; 3 per cent are institutionalized; 22 per cent are in the labor force including unemployed as well as employed.

I shall resist the temptation to cite more statistics as you all are more familiar with them than any other physicians.

Now what clinical progress have we made in dealing with chronic disease in the last fifty years which has marked the geometric progression of the geriatric problem? Medically the antibiotics, diuretics, diet, hormones and steroids have vastly improved our ability to ameliorate, if not control, certain chronic diseases. There comes to mind subacute bacterial endocarditis which used to be a chronic and finally fatal disease. The antibiotics have also improved the tolerance of those afflicted with chronic disease to sudden invasion of acute infections. The hormones have improved the tolerance to osteoporosis, certain secondary manifestations of carcinoma such

as metastatic lesions of breast cancer, and even some primary tumors such as prostatic malignancy. The ravages of the collagen diseases have been assuaged to some extent though cure remains out of reach. The newer diuretics have offered much relief to the patient with the chronically failing heart. The relationship of obesity to circulatory disease has been well established and our research colleagues are gaining on the more exact relationship between metabolism, diet, and atherosclerosis.

The steroids when properly used have improved the lot of many arthritics and the knowledge of metabolism thus gained has pointed to other important areas of research.

We have recently witnessed a break-through in knowledge of several orally administered insulin-like drugs, Orinase, Diabinese and D.B.I.

These are but a few of many important advances that have been made in clinical medicine. Some of the great unsolved problems in clinical medicine are the peptic ulcer problem, hypertension, arthritis, and, of course, arteriosclerosis and cancer.

Surgically the record has been equally brilliant. Orthopedic surgery has revolutionized the ambulatory status of the fractured hip, back and leg. Neurosurgery has relieved the disabling pain of the ruptured disc, tic douloureux, and chemopalidectomy promises relief to some afflicted with Parkinson disease. The abdominal surgeon can remove much offending pathology, reconstruct others, and actually transplant whole organs with certain weighty restriction. Vascular surgery is equally miraculous and intracardiac surgery for congenital and acquired valvular and septal defects borders on the sublime.

Cataracts can be successfully removed at any age, electrolyte studies and control make age no contraindication to hernia repair, appendectomy, or even gastric resection. The fenestration and mobilization operations have restored hearing to many. Transurethral prostatic resections have added years to life for many an old man.

Yes, we have come a long way since 1900, but in coming we have upset certain balances of nature which are always upset when we make progress in any field of human endeavor and nature has a way of letting us know about it both individually and as a group.

Some wit has written, "Growing old isn't so bad when you consider the alternative." But, I am sure you will agree with me, as with many wits, he was only about half right. If growing old means literally growing in years, experience and in maturity, to be

sure, that is desirable. If, however, growing old brings with it loss of hearing, loss of sight, loss of teeth, loss of bladder control, loss of one's ability to remain independent financially, loss of a feeling of responsibility, loss of a sense of being useful or needed, then early death is preferable.

This was so well illustrated for me about five years ago when I attended a lady of seventy-six years who had developed pneumonia. Upon acquainting her with the diagnosis, she queried, "Well, doctor, I am going to die, am I not?" "No," I replied, much to her obvious disappointment, "you ought to be entirely well in about a week's time thanks to our so-called wonder drugs." She did not believe me either, thinking I was giving her professional reassurance, but in spite of her attitude she made a grudging recovery in the announced time. She is still living today but not happily, I am sorry to say, because she has been relegated to a nursing home in another city where she is constantly annoyed by the eccentricities of other old and more decrepit senior citizens. I had done a good job physically in helping her to recover from pneumonia but there was not enough mental and physical health left for her to enjoy life. Her mental attitude, which has always bordered on the cantankerous, has become worse, her eyesight which had begun to fail has grown dimmer, and a long-standing diverticulosis has continued to harass her. Did I help her by stemming the infiltration of microbes which would have removed her from her veil of tears? Did I bring good into her home, which I entered as a physician according to the Hippocratic oath, or did I but transfer her from her acute assailant to a worse one who would slowly torture her to her grave?

These questions Hippocrates, Harvey, Lister, and even Osler did not have to answer but circumstances created by them, together with the more miraculous advance of modern medicine, have made it mandatory for us, the physicians of this day, to answer and answer rather promptly. We must apply more than symptomatic relief for the oldster of today and meet the challenge of preparing the youngsters of today for a more satisfactory old age.

So, to meet this challenge in the community, we must set our sights on rehabilitating the aged. We should not be part of any program which relegates them to the shelf or to a parasitic existence which is, in simple words, slow death. Recently in the Salvation Army's War Cry, February 28, 1959, which I believe you will agree is a conservative publication, there appeared an article entitled, *Thank God for Death* by S. L. Morgan, Sr. Here a young minister

tells of conducting a funeral for a man who had been paralyzed for twenty-one years. His devoted wife had cared for him and maintained a home. The minister's prayer began, "Lord, we thank Thee for life and for death." Do we as physicians recognize our responsibility in not prolonging suffering? Have we indeed forgotten or misinterpreted the Hippocratic Oath when it says and I quote, "In whatsoever houses I enter, I will enter to help the sick, and I will abstain from all intentional wrongdoing and harm." How shall we use our newly increased powers; to sustain existence for the good of the patient, or for the gratification of our sense of power in maintaining existence?

America is a youthful country, it is beautiful and strong and courageous just as youth usually is. However, our behavior, it seems to me, is a bit youthful even in such a maturing field as gerontology. We worship science without stopping to consider our goal. As a recent editorial in *Life* magazine puts it, "A Society that apotheosizes techniques and talks more about its processes than its aims, has made God Himself a technique instead of the source and goal of our being." We built a rocket to shoot the moon and are dismayed when those bad boys over the iron fence make a bigger fire cracker and shoot around the sun. So we must immediately try to shoot around the sun and we do it. This is fascinating and perhaps from a research point of view valuable. If it serves the purpose of helping us solve our earthly problems, well and good. If it but leads to further war and suffering how can we justify the enormous expense?

"Well," you say, "what has all this to do with the community implications of chronic disease?" Perhaps this will become apparent as I attempt to point out some flaws in our approach to this problem.

Our medical schools are or should be in the vanguard of our efforts in solving the chronic disease riddle. On the whole they have done a creditable job. Since the Abraham Flexner report on *Medical Education 1909-1924* before the Council on Medical Education of the American Medical Association, March 3, 1924, vast improvement in medical education has resulted, but not without the unmixed blessing of separating the medical student farther and farther from the practicing physician. Admittedly, the busy physician cannot keep up with the purely academic and basic science aspect of medicine nor can the academician, the professional teacher of medicine, teach the medical student the discipline which he himself has never experienced and from

which he has been cloistered for really his entire career. There is an important phase of medical training which must be continued by the practicing physician or surgeon, public health officer, or other specialist which can never be done by the professional teacher. Medicine must always be considered an art and art can only be taught by emulation after basic scientific training.

Another facet to this problem is that because of poor financial remuneration for medical teachers medical colleges have had to allow further research money to reach their coffers and hence it seems to me more emphasis on research has been given students who expect to practice medicine than is deserved. Their minds are crowded with new, and I might say passing, theory to the exclusion of such fundamental knowledge of how to treat a common cold or sunburn, or how to lend scientific comfort to the dying patient and his family.

Perhaps we should have two types of medical schools, one which would train teachers and research physicians and another type which would train practicing doctors. Both are needed; both should be provided.

Dr. Dwight Wilbur, President of the American College of Physicians, stated at a regional meeting of this organization on March 21, 1959, that there has entered into the physician-patient relationship a third person. There are now about sixty-two paramedical agents who comprise the team approach to modern medical practice. These range from his first aid, the graduate nurse, to the physiotherapist, laboratory technician, social worker and so on. These are all necessary and valuable, but he points out that there is the real danger in the fragmentation of the important relation of the doctor with his patient—a personal and if you please a sacred relationship.

Among these newly created agencies are the giant health fund agencies which began with the excellent work of the National Tuberculosis Association in 1892, and have spread to practically every chronic disease which flesh is heir to.

In his excellent article entitled *Mutiny of the Bountiful* in Harper's Magazine of December, 1958, Marion K. Sanders has done a great public service in pointing out how the public generosity for helping the afflicted has been abused by the multiplicity of multimillion dollar campaigns. These gargantuan organizations with their highly paid administrators, luxurious New York offices have preyed on public sympathies by scare tactics; using the guise of research as a magic word to perpetuate their work

after the specific problem for which they were set up had long since been solved. Others continue to raise vast sums for conditions that cannot be solved by money but only by time.

There are over seventy-five so-called public subscription health funds of national scope which in 1958 garnered \$175,000,000 from the generous American public. The American Heart Association raised an estimated \$22,345,700. The Federal Government appropriated an additional \$45,613,000 for the National Heart Institute, a total then of \$67,958,700 for heart alone. The American Cancer Society raised an estimated \$33,950,000 and the Federal Government appropriated \$75,268,000, a total of \$109,218,000 for cancer alone. The Arthritis Foundation and the National Society for Crippled Children and Adults raised together \$20,293,400, while the Federal Government appropriated \$31,215,000 for arthritis and metabolic disease or a total of \$51,508,400. Thus for three diseases, heart, cancer and arthritis with metabolic disease, the colossal total of \$228,685,100 was raised by subscription and government appropriation. Is this money being spent wisely or is it being dissipated by many un-coordinated pet research programs? I wonder! Some day the American public may justly ask us, their physicians, "What have you done with our money?"

Recently our group in Richmond was told \$250,000 annually for a period of five to ten years would be appropriated for geriatric research. When we asked how all this came about without our even asking for it, we were told that Congress was going to appropriate the money and the agency which approached us was instructed to find out how best to spend their money. How long will it be before such medically minded politicians will be writing our prescriptions for us? How long before the physicians of this great country will arise and assert our rightful prerogatives as captains of the health team and not its minions?

No great medical discovery has ever been made by raising a huge sum of money by public or private subscription or by appropriations of any government. Most important medical discoveries have been made by serendipity, that is accidentally or in place of some other fact by some quiet unobtrusive worker. As recently as 1945 the discoverer of penicillin, Sir Alexander Fleming, noticed almost accidentally that bacteria would not grow near a mold on a culture plate. Harvey, Jenner, Lister, Pasteur were

not financed by giant funds using Madison Avenue advertising technique.

This is an era of panic. Suddenly, we must conquer space, must find the cure of cancer, high blood pressure, arteriosclerosis. Because we solved one of the mysteries of atomic power and made a destructive bomb by gambling a billion or two dollars, so we in our exuberance and youthfulness, believe we can crack any scientific problem by raising money and putting scientists to work. This might work for destructive science but not for the art of medicine. I am Presbyterian enough to know that no matter how hard we beat our heads against our play-pen of this world the good Lord is just not going to permit us to find out things or even make medical discoveries until He is good and ready for us to do so. Actually He must smile as He contemplates how long we have been taking to comprehend the simple elements of our environment.

Now I would not like to leave the impression that we should sit with folded hands and drift, but I think we should take stock of ourselves and get off the panic button.

Specifically a health foundation for the whole man appeals to me. This could be a locally directed effort on even state wide, as is the recently established United Medical Research Foundation of North Carolina. This foundation collects monies for all health needs in the State. This would lead to a National Health Foundation which could in a large measure channel funds in proportion to the needs of the community rather than to the emotional desire of a single disease agency. Research funds could be allocated on a scientific instead of a monetary basis. Medical education could be given the financial assistance it deserves and the Federal Government could play a diminishing role in medical finance. Perhaps this is Utopian, but what goal isn't before its attainment?

Another area of community sensitivity in the relationship of chronic illness to the aging process is in the field of hospitalization. We are all aware of the encouraging rise of the Blue Cross-Blue Shield plans and other equally commendable voluntary as well as publically supported hospital programs. You are also all cognizant of the unexampled increase of hospital cost with the progressive increase in the general economy.

The public, at first thought, is inclined to blame rising premiums on Blue Cross administration, on hospital administrators, and on doctors. In answer to the first charge the percentage of Blue Cross-

Blue Shield administration to amount of premium was only 6.07 per cent in 1958. Private companies who reported from 8.2 to 9.1 per cent were one; from 10 to 14 per cent twelve; from 15 to 19.9 per cent were ten; and over 25 per cent were fifty-one companies, with eight reporting over 50 per cent of premiums for administrative costs. I think you will agree that the Blue Cross-Blue Shield operation is a strikingly efficient one.

Hospital administrators are blamed for increased hospital costs. Actually most if not all increase in hospital expenses is due to increased labor costs. It should be realized that it takes two persons working in a hospital for every hospital bed.

This is an expensive age. All of us are conscious of the fact that such things as light bulbs, stockings, ball point pens seem to be made to buy and not to use for long. Drugs are expensive but shorten illness; laboratory tests have been devised and unfortunately are used with too little regard for their economic value to the patient. The public has demanded and received more expensive automobiles than actual transportation needs or requires, and so they have demanded and received by the same token more expensive medical and hospital care than they are now able or willing to pay for, at least when it comes to total hospital insurance coverage. As long as human nature persists in the delusion that their hospitalization premiums are to be reciprocated in direct proportion to that which they have paid, we will continue to have progressive increase in premiums as a corollary to increased hospital utilization. We don't expect this of our life insurance premiums because we can't expect to be around for the big pay-off. I am no economist, but it seems to me that the solution of the Blue Cross-Blue Shield problem is to use this wonderful insurance as an indemnity, but in some way have each subscriber participate out of his own pocket on each utilization, at least in a small way. Human beings are more conscientious about spending their own out-of-pocket money than that of any pooled resources to which they contribute.

Physicians themselves have also been blamed for the rising medical cost spiral, but actually medical fees have not advanced as rapidly as the total economy. A television repair man or plumber charges more to come to your home and diagnose and treat your television set or sink than a physician charges for a similar service to your body.

This discourse could be carried far into the night but I cannot close without saying a few words about

other influences which have come to bear on this problem of chronic illness. Rehabilitation is an important ingredient in helping us solve our chronic disease problem.

Cowdry in his monumental work entitled *Cowdry's Problem of Aging*, whose third edition is edited by Lansing, defines rehabilitation as "the restoration of the handicapped to the fullest physical, mental, social, vocational, and economic usefulness of which they are capable." He has called this the third phase of medicine. Howard A. Rusk, of New York City, probably the most outstanding physician in the field of rehabilitation, has called it medicine's number one problem.

Perhaps there are some people who have felt that rehabilitation is but an extension of paternalism, of an already socialized government, but on closer study of the problem we find that rehabilitation is not only good medicine but sound economics and hard common sense.

Dr. Robert Felix, Director of the National Institute of Mental Health, has written and I quote, "Relatively little has been done to develop medical rehabilitation services for the aged largely because of the pessimistic attitude among physicians, families, and the aged themselves." We would be unrealistic if we ignored these reasons for the inertia in this field but we would be reactionary and derelict in our duty if we permitted this attitude to prevail. For after all, Geriatric Medicine is nothing new except for a change, an optimistic change, toward what medicine can and should do for the aging population. You will observe that I used the term aging and not aged, as the hope of rehabilitation of the aging lies in preventive geriatrics which begins at birth as well as dealing with the ravages of life's experience on the old body.

The physician or social worker should interest himself not only with the effect of aging on the individual but also on the community. Are the community facilities geared for looking after the growing number of senior citizens, and there are 290,000 in Virginia today sixty-five years of age and older? There are 30,000 plus in the City of Richmond. This interest includes a study of hospital facilities, convalescent homes, employment, housing, recreation, economic maintenance and so on.

We ought to quicken a community spirit which makes use of their vast life experience in many fields. At the same time we should gird ourselves for caring for those who cannot be so integrated and make

life meaningful even though it be no longer financially productive.

The General Assembly of Virginia has provided for, and the Governor has appointed a Commission on the Aging which held its first public hearing January 15, 1959, in Richmond. Your own Drs. Shanholtz and Davis are members of this Commission. Great things are expected of this Commission and it has made a fine beginning under the direction of Mr. John E. Raine, Chairman.

The localities are beginning to awaken to their home problem and civic voluntary agencies as well as governmental agencies are tackling the problem vigorously. The Junior League of Richmond has just opened a day center for our senior citizens after careful exploration of our local problem by the

Gerontology Committee of the Richmond Area Community Council.

These are good beginnings, but let us not panic. Not all chronic disease will ever be controlled, not all senior citizens will live happily and comfortably to the end. Neither Heaven nor Utopia can be bought by any price we might be willing or able to afford and so may I close with a paraphrase of Reinhold Niebuhr's classic prayer, "Oh God, grant us the serenity to accept what cannot be changed, courage to change what should be changed, and the wisdom to distinguish one from the other."

*McGuire Clinic
Richmond, Virginia*

"Social Diet" for Weight Reduction

You can diet and your friends don't even have to know about it. A "social" diet—in which you eat normally with only a few modifications—was described by Dr. Milton Plotz in the July 25th Journal of the American Medical Association.

The modifications include the following:

—Not more than one slice of bread is to be eaten at any meal.

—At breakfast, cereal or one slice of toast—not both—may be eaten.

—Variety can be added to the lean meat, green vegetable routine at dinner by small portions of rice, noodles, cracked wheat, or spaghetti, a small baked potato, or portions of peas or lima beans.

—No gravies are to be added to food.

—Portions of everything should be reduced by about one-quarter, and "seconds" are not to be taken.

—Desserts should consist of one portion of fresh fruit, one ounce of any suitable cheese, or a small slice of angel food cake.

On this routine, almost every determined patient will lose weight. In 100 successive patients, this routine resulted in a reduction of about 1,400 calories a day. "In many instances, the patient's friends—

and sometimes his family—did not know that he was on a diet."

Dr. Plotz noted that the dietary management of obesity "is evolving today in much the same way as that of diabetes some 20 years ago."

In the treatment of diabetes, the use of highly artificial diets with special preparation, with special or even exotically prepared dietetic foods, and food substitutes has been superseded by diets resembling normal diets as closely as possible.

A similar evolution is taking place in the management of obesity; artificial and complicated routines are being replaced by those which throw less burden on the patient's family and which enable the patient to be a more acceptable member of society.

Diets cannot be prescribed for a short time. The dieter must realize that he will have to change his eating habits for a long time—perhaps for life.

The dieter at first may need the help of a drug in suppressing his appetite. When newer eating habits are well established, the supportive medicine can often be withdrawn.

Dr. Plotz is associated with the State University of New York, Medical Center at New York, and Kings County and Goldwater Memorial Hospitals.

Carcinoma of the Upper Respiratory Tract

Recent Trends in the Management

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E. W. BITZER, M.D.

Charlottesville, Virginia

SEVERAL YEARS AGO (in 1955),² we presented to this same group some of our impressions in regard to the trends in the treatment of neoplasms of the upper respiratory tract, as we intend to do now, and hope to do again a few years hence.

During the intervening time, the changes in treatment have not been great. In some areas, the tendency to more radical surgical extirpation has been apparent, and in other cases, to less extensive surgery. More irradiation is being utilized for definitive therapeusis in certain well-chosen cases. The advantages of cobalt 60 therapy over that of the conventional 250 kilovolt therapy may not be great, but its availability has been responsible for some increase in the use of radiation in certain neoplasms of the head and neck. At the present time, some of our radium is being transferred to needles of low intensity caliber, which have been found helpful in the treatment of some carcinomas in medical centers elsewhere. They will be given a trial here.

Risk to the patient in the immediate postoperative period has been reduced, due to a better understanding of electrolyte physiology. There are now specialists in this field in many hospitals. We have adopted, almost universally, the use of continuous suction from beneath the skin flaps of our neck dissections, thus obviating the need for the large, cumbersome, and uncomfortable pressure dressings. By this measure, the patient is made more comfortable and we know we have obtained more rapid healing and less complications, such as fistulas. Another innovation is the use of shaped foam rubber prostheses to serve as temporary plugs in the defects of the upper jaw, which are necessarily created by the surgical procedures upon these parts. Permanent prostheses of acrylic compound are arranged for later.

Cancer detection programs are resulting in earlier

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From the Department of Otolaryngology, University of Virginia Hospital.

identification of neoplasms, particularly those in the endolarynx.



Fig. 1—Patient nine years after resection of maxilla and evisceration of orbit for carcinoma of maxillary sinus.

Some of the earlier symptoms and signs of carcinoma of the upper respiratory tract are always worth mentioning and repeating, such as:

- Increasing nasal discharge
- Increasing nasal obstruction
- Persistent aural discomfort
- Increased salivation
- Scratchy throat
- Husky voice

More advanced symptoms and signs, which are less often overlooked, are:

- Swelling of the mouth and cheek
- Dental disease that cannot be controlled by the usual dental therapy

Blood in the nasal discharge.
 Deafness and tinnitus
 Paresthesias of the soft tissues of the face
 Pain and obstruction on deglutition and the ingestion of food
 Hoarseness
 Audible respiration
 Cervical adenopathy
 Cranial nerve palsies

Surgery is the primary treatment of choice for carcinoma of the sinuses, and has advanced from the old curettage—rongeur technique (which left much to be desired)—to total extirpation by the en bloc procedure which is planned to ablate or extirpate the tumor by an encircling normal tissue approach. This, in addition to the use of electrocoagulation in certain instances, followed by some form of irradiation, mainly cobalt 60 teletherapy.

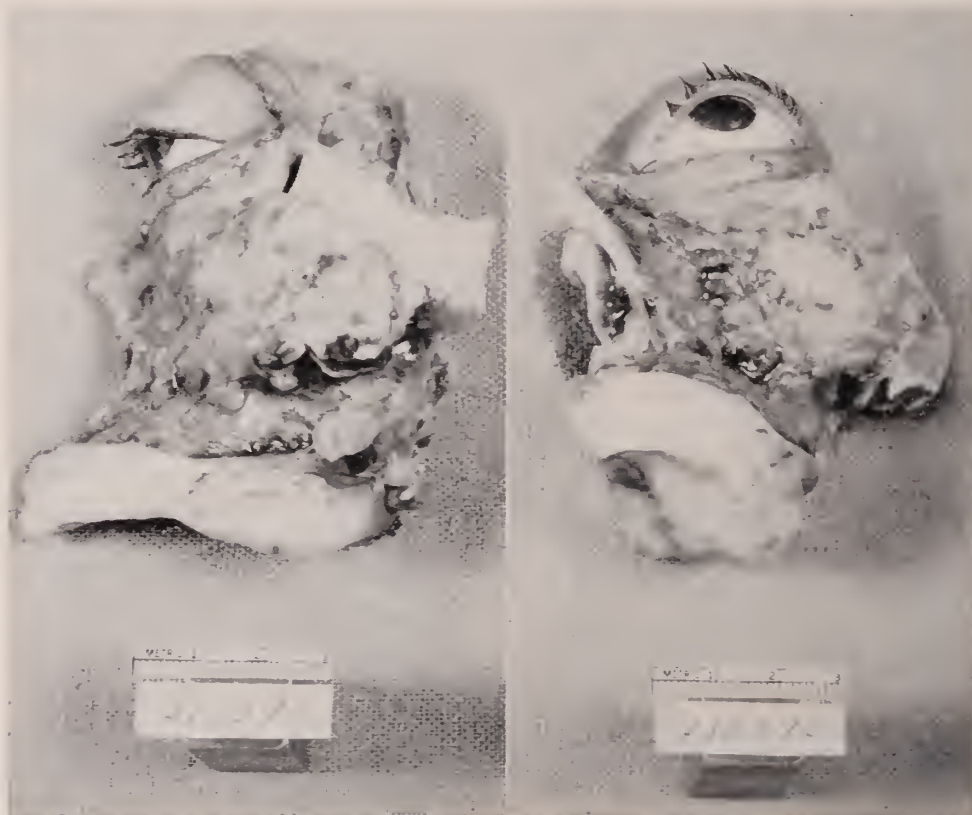


Fig. 2—Bloc resection of left maxilla including orbit for carcinoma, lateral and anterior views.

CARCINOMA OF THE NOSE AND NASAL ACCESSORY SINUSES

There are no new developments in the diagnosis of the commoner epidermoid carcinoma and other malignant neoplasms of the nose and sinuses. By the time the patient presents himself or herself for definitive diagnosis and treatment, the neoplasm is an advanced one. We have continued to obtain Papanicolaou cell stains of the washings from the nose and sinuses, which have been previously reported upon.¹ We are sure that in our department several hundred of these procedures have been performed since our preliminary report. There has not been a single instance in which the procedure has been of any significant aid, in our opinion, in obtaining an earlier diagnosis of neoplasm.

offers, in our opinion, the greatest opportunity for a permanent cure, or, in the event of failure here, a more prolonged and comfortable, palliative course for the patient.

There are some surgical groups that have advocated irradiation prior to surgery, then again, others who depend almost entirely upon irradiation, surgery being utilized only to obtain drainage and to improve the portals for irradiation. In addition, there are other groups that depend to a great extent upon electrocoagulation as the primary modality in eradicating the tumor.

The aggressive attempt at total removal of the tumor will often include an evisceration of the orbital cavity. A neck dissection is performed only when obvious cervical node involvement is ap-

parent. Exceptions to this extensive surgery are those cases with radio-sensitive tumors, those with obvious bony involvement of the base of the skull, gross bilateral involvement of the facial bones, and distant metastasis. These patients are treated with irradiation and less extensive surgery.

We have used the chemotherapeutic agent, nitrogen mustard, in only one case so far, a very recent one. This was done in an effort to reduce the



Fig. 3—Unusual site of posterior cervical node involvement in carcinoma of nasopharynx.

chances of implants, and also in view of some reports to the effect that nitrogen mustard might enhance the effects of irradiation.

Treatment is planned individually, depending upon the existing circumstances of the case. However, the more extensive attempt at surgical ablation is convincing us that we will see a greater percentage of long-term cures (five years) in the future.

CARCINOMA OF THE NASOPHARYNX

The diagnosis of a malignant neoplasm of the nasopharynx is sometimes quite difficult to make, even with the presence of an enlarged discrete cervical node at the angle of the mandible, which should indicate a carcinoma of the nasopharynx until proven otherwise. We have on three occasions, in the past two years, performed a "blind biopsy" in the nasopharynx with a positive result. If we had

not been searching for the primary lesion as the origin of a cervical node, the normal-appearing nasopharynx would have been passed over as being a negative area. Also, we would like to emphasize that some of the early symptoms and signs of a neoplasm here are those related to the ear, such as a diminution in hearing acuity, a sensation of fullness, a collection of fluid, and even tinnitus.

The types of growth are: the low grade squamous



Fig. 4—Carcinoma of larynx (left) requiring wide field laryngectomy.

cell carcinoma, the more undifferentiated transitional cell carcinoma, and the lympho-epithelioma. The latter two are considered to be radiosensitive and are commoner than the radioresistant differentiated squamous cell type.

Carcinoma of the nasopharynx, because of its anatomical situation and, in many cases, because of the type of neoplasm present, still remains primarily a problem of irradiation as far as treatment is concerned. There have been recent suggestions that a surgical approach to the nasopharynx should be attempted, in order that some of the tumor might be eradicated by electrocoagulation and that either interstitial or intercavitary irradiation might be initiated with greater accuracy, under the direct vision of the operator. This approach to the nasopharynx is by an intraoral transpalatine fenestration method. Also, the question arises as to a neck dissection to remove the cervical nodes involved. The advisability

of such a surgical procedure is obviously highly debatable.

Actual advancements of note in the management of these lesions have been in earlier diagnosis and improvement in irradiative measures. The treatment of choice is a combination of external and inter-cavitary irradiation. Our method of treatment here is a combination of cobalt irradiation, administered

tumors are squamous cell carcinomas; and after these are the lymphomatous group, such as the lympho-epithelioma and the lymphosarcoma. An occasional adenocarcinoma of salivary gland origin may be encountered. Tonsillar cancer is the second most frequent malignancy of the upper respiratory tract, next to laryngopharyngeal carcinoma. Metastases are rapid and involvement of the lymph nodes

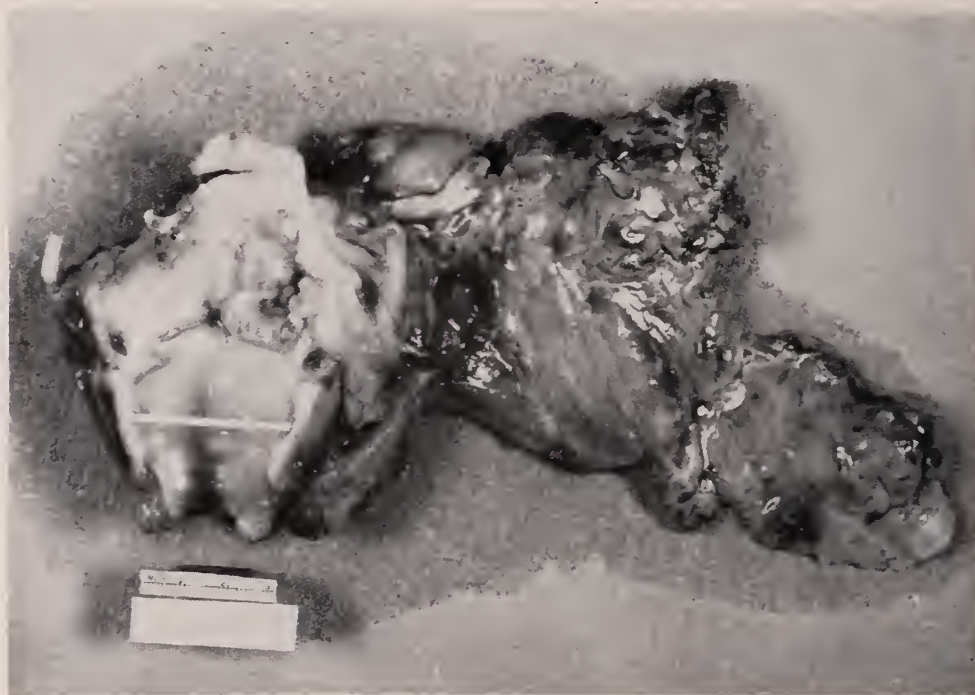


Fig. 5—Carcinoma of larynx (right) requiring laryngectomy and neck dissection.

externally, plus the use of intercavitary or interstitial irradiation, depending upon the response as manifested by regression of the neoplasm.

A problem that has caused some difficulty is the difference in terminology and classifications of lesions of the nasopharynx by the various pathologists. The prognosis of the malignant tumors of the nasopharynx depends principally upon the type of the individual cell composing the tumor rather than the stage of invasion when both are considered. The stage of invasion includes the presence or absence of palpable glands, evidence of bone involvement of the skull, and that of cranial nerve involvement.

CANCER OF THE TONSIL AREA AND SOFT PALATE

Although the tonsil areas may not be considered essentially a part of the upper respiratory tract, some comments in regard to neoplasms here will be of interest to this group. The commonest tonsillar

of the neck is a common finding at the time of the initial examination.

In the past, irradiation to the primary lesion and to the areas of lymphatic drainage has been thought to be the treatment of choice, and still is, of course, in those neoplasms in the lymphoma category. However, recently, surgical therapy for the squamous cell type is being considered as the preferred method of treatment. The surgical procedure is excision of the localized tonsil cancer in continuity with a radical neck dissection, with or without a resection of part of the mandible, depending upon the extent of disease. Patients with cancer of the adjacent soft palate are treated by surgery and irradiation, depending again upon the type, site, stage, and histologic components of the tumor.

CARCINOMA OF THE LARYNX AND LARYNGOPHARYNX

Trends in the diagnosis and treatment of carcinoma of these structures, those of the larynx occur-

ring more commonly than any other upper respiratory tract cancer, will be divided into four parts: First, some remarks about the classification and staging of these diseases; secondly, the method of reporting results; thirdly, treatment by irradiation; and last, fourth, treatment by surgery.

There is much variance in the methods and terminology of the classification or rather description of carcinoma of the larynx and laryngopharynx. The old and probably original classification, devised many years ago, which divides these tumors into intrinsic and extrinsic varieties according to the anatomical locations, at the present time is consid-



Fig. 6—Carcinoma of larynx (extending across mid line) requiring laryngectomy and right neck dissection initially, followed by left neck dissection as a secondary procedure.

ered inadequate and obsolete. Until a universal method of description is devised and adopted, it will be impossible to evaluate and compare with any degree of accuracy the reports of authorities in this country and foreign ones, as to the results of the various treatment modalities practiced. Efforts are being made for the adoption of a classification, based upon the anatomical site of origin of the tumor. In addition to this topographical and anatomical description, one must add information about the histological activity, the degree of invasion, and the extent of the disease from clinical observations. This system of grading is termed staging, and a combination of staging plus the site of origin, topo-

graphical or anatomical, may be termed stage-grouping. It is desirable that the cancers be described in the manner mentioned, as this will do much to abolish the confusion existing today, due to the varying descriptions and criteria of the different authors. It is now impossible to compare with accuracy any one series reported with another.

In addition to the need for improvement in the description and classification of tumors, there is also a need for uniformity in the method of reporting results of the handling of carcinoma patients as a whole. It is suggested that every patient who is seen, regardless of the type of treatment employed and whether treated or not for any reason, be included in the total report. If this is done, the total experience will be related; and thus again, less confusion will arise in the interpretation of the reported impressions of the various operators in this field.

In considering treatment, we will first discuss that of radiotherapy. While it is true that there is a tendency to refer more of the earliest carcinomas of the larynx to the radiotherapists for consultation than ever before, it is considered by the majority of otolaryngologists that, in general, surgery is the treatment of choice as far as the over-all therapy of carcinoma of the laryngopharynx and larynx is concerned. It appears that the prognosis with adequate surgery is better than that with irradiation. One possible exception to this impression might be noted, this being carcinoma limited to the mucous membranes of the superior surface and edge of the vocal cord with no interference in the mobility of the cord. In this type of case, radiotherapy has proven to be quite successful; but even the results have not proven as good, though nearly so, as from the surgical procedure of thyrotomy with excision of the lesion. This procedure has one real disadvantage, in that the voice is permanently altered for the worse by the operation. In the case of radiation, cordal tumors may be adequately treated with subsequent restoration of normal function of the larynx. This advantage should be considered, and properly so, in certain individual cases. As far as the method of irradiation is concerned, that obtained through the effect of the cobalt 60 unit is the one most desired.

It is well recognized that surgery is superior to radiotherapy in the eradication and control of cancer involving the lymphatic system of the neck, which is the first extension or metastasis of these neoplasms to any distance from their original sites of origin.

Another aspect of irradiation management is that

we feel youth is a relative contraindication to irradiation. The effects of radiation are both permanent and progressive, and in a young person with a life expectancy of 30 or 40 years, there is always a possibility that future morbidity from this type of treatment will ensue. However, this can be minimized by increased knowledge on the part of radiotherapists, improved methods of administration, and the source of the irradiation.

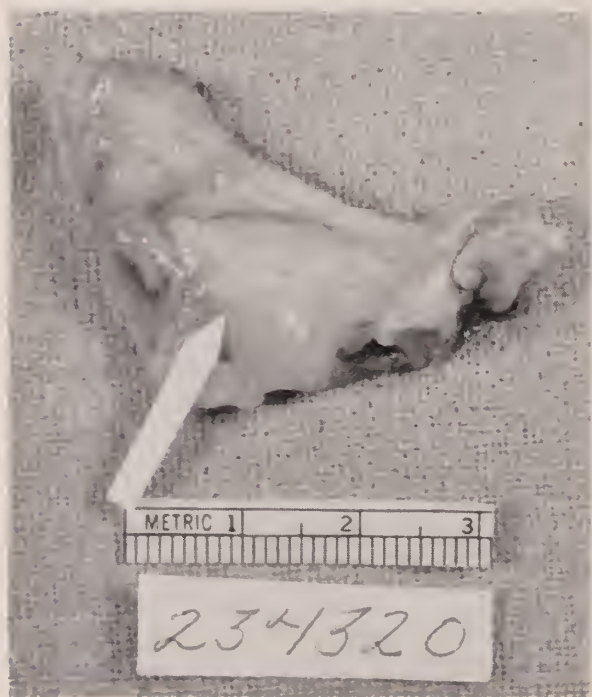


Fig. 7—Lesion involving right vocal cord removed by thyrotomy and excision of cancer plus good margin of uninvolved tissue, resulting poor voice—good airway.

The recent trends in the surgical treatment of lesions in these areas provide the most interesting observations in this particular presentation. It has already been noted that there has been a reversal of the trend formerly giving the radiotherapists only the opportunity of treating the extensive or what were previously considered inoperable carcinomas. The radiotherapists are now being given the chance of seeing and treating the earliest type of lesion confined to the cord proper. However, as far as the over-all treatment range is concerned, a higher percentage of surgical procedures are being carried out, as compared to radiotherapy, than in the past.

The trends in the type of surgery performed furnish material for interesting, and even paradoxical, observations. There has been a very definite increase in an effort to remove the local or initial lesion in combination with its satellite lymphatic system in

continuity. This is being done in a very high percentage of cases, even in the absence of clinical evidence of extension of the neoplasm to a satellite node. An example of such surgery would be a laryngectomy, partial pharyngectomy, and neck dissection, all in one operative procedure. In the event that it is thought that a neck dissection on the opposite side is necessary, this is performed unhesitatingly, usually after a period of five or six

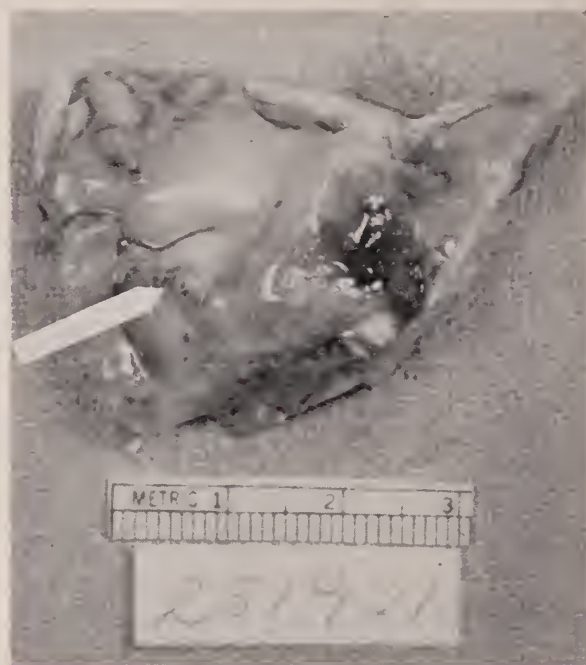


Fig. 8—Carcinoma of right larynx, eliminated by hemilaryngectomy, with resulting whispered voice only but good airway.

weeks from the time of the initial surgery; but it may be done at the same time of the first operation. These extensive procedures offer the best chances for cure. This type of operation has been performed now by many groups for a long enough time (five years plus) so that reliable statistics are available which have proven this observation to be accurate. Interesting enough however, at the time when this point could be accurately made, there was developing, among some otolaryngological groups, a tendency to ignore the above-mentioned facts and to develop procedures of a conservative or subtotal nature to eradicate the initial or original site of the carcinoma, with or without an including operative procedure to remove the adjacent lymphatic system. These newer modalities of treatment were devised in an effort to conserve the airway and as much of the function of speech as possible. Thus, such terms as subtotal laryngectomy, hemilaryngectomy, par-

tial laryngectomy, and so forth, have been seen with greater frequency in the literature and heard more often in symposia upon the subject. The length of time in which these operations have been performed, in the greater number of cases, has been insufficient (five years minus) for proper evaluation as far as safety to the patient is concerned and, consequently, for advisability of these procedures. In all likelihood, time will prove that such conservative surgery will be applicable or useful in a small group of very carefully selected patients. If this practice of selection is not carried out and the operation is a failure, then we feel that it is a tragic one, for we see little if any hope of favorable results from any type of irradiation therapy as a secondary procedure, and in all probability the secondary surgical operation will have to be one of much greater magnitude than an initial wide field laryngectomy with or without neck dissection. We would like to note also that in commenting upon this type of treatment, we do not include the time-tried thyrotomy and local excision of a lesion from the cord (laryngofissure) in this category. These lesions, on which the subtotal laryngectomy is performed, are too extensive for thyrotomy and local excision as in the laryngofissure, or for excision by the endoscopic approach. Also, from the recent trends in surgery, there seems to be little place in this field, in the case of laryngectomy per se, for anything else than the wide field variety. It should be emphasized that following the subtotal variety of laryngectomy, the voice is never a good one and is actually not preserved, but the airway does remain a natural one and, of course, this is of real advantage.

We are performing some of the subtotal laryngectomies, but, as stated, only in those cases who have been most carefully selected, and also in an occasional instance in which the patient refuses to have any more extensive surgery and in which we agree that there is a fair opportunity of success. We sometimes feel that patients in this latter category would be perhaps better off with initial irradiation and plans, in the event of failure, for an extensive surgical operation later, rather than with the performance of a subtotal procedure with only a less than fair opportunity for success. We cannot help but believe that a failure in the subtotal category places the patient in a dangerous position, regardless of the type of treatment to be used subsequently.

It is to be reiterated that we do not condemn any therapy that has as its aim the preservation of the airway and voice, but we are a little disturbed—in view of the status reached, as far as technique and success are concerned, by means of the extensive en bloc operations—to have this choice of treatment reversed, so to speak, in favor of a return to less extensive procedures, the failure of which results in the need for subsequent, far more radical, and mutilating operations.

SUMMARY

Comments and observations are made in regard to the recent trends in the management of cancer of the upper respiratory tract by the Otolaryngologic Service at the University of Virginia Hospital. At the present time, the vast majority of the patients falling into this category are treated by surgical measures. However, in latter years there has been a tendency in certain areas to give the radiotherapist a chance to see and treat some of the earlier cases. In the past, their opportunities have been inclined to be limited to that group of patients who have been classified as being inoperable for various reasons, and radiation therapy has been instituted mainly as a palliative measure.

Increase in the cure or survival rate subsequent to surgery has developed as the result of advancements in technique, improvement in anesthesia and in the supportive measures administered prior to, at the time of, and in the postoperative treatment. A still better solution of the problem, however, at the present time will be, basically, the determination of earlier diagnosis, best realized by a high degree of suspicion exhibited by all physicians who examine and treat patients.

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Eosinophilic Granuloma of the Temporal Bone

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EOSINOPHILIC GRANULOMA is of particular interest to the otolaryngologist as it may select the temporal bone for its first and sometimes its only attack. The term "eosinophilic granuloma of bone" was introduced in 1940 by Jaffe and Lichtenstein^{1,2,3} who thought this was a separate clinicopathological entity. However, eosinophilic granuloma is now considered to be a form or phase of histiocytosis, a term used to describe three diseases all of which are characterized by a histiocytic proliferation of unknown etiology; namely, eosinophilic granuloma, Letterer-Siwe's disease, and Hand-Schüller-Christian's disease.⁴ Goodhill⁵ has shown the features of all three phases in one patient.

Eosinophilic granuloma is the first phase of histiocytosis.⁶ It is an inflammatory and destructive type of lesion characterized by a localized or generalized response of the reticulo-endothelial system and therefore composed of eosinophils and histiocytes.⁶ It is considered a benign form. It either retrocedes spontaneously, or after treatment, or it may progress to another phase.

Letterer-Siwe's disease is thought to be the acute phase of histiocytosis.⁶ It is seen only in infants and young children. This disease is fulminating and generalized. It is characterized by multiple areas of proliferating histiocytes in the visceral organs. There is hepato-splenomegaly. It is invariably fatal.

Hand-Schüller-Christian's disease has been classified as the chronic phase of histiocytosis.⁶ The lesions are usually limited to the skeleton. It is classically characterized by multiple round defects in the skull, unilateral or bilateral exophthalmos, and diabetes insipidus. All three of these abnormalities do not always exist in each case, and other manifestations in combination with one or two of these are just as typical of the syndrome.

Of the twenty-six cases of Hand-Schüller-Christian's disease initially reported in the literature, twelve had ear involvement.⁷ In the past twenty-five years a number of cases of eosinophilic granuloma of the temporal bone have been reported.^{5,8-20} Five cases of bilateral involvement have been de-

scribed.^{8-11,19} In some of these patients no other lesions were demonstrable. In others there were signs of chronic histiocytosis or Hand-Schüller-Christian's disease.

OTOLOGICAL SYMPTOMS AND SIGNS

The onset of eosinophilic granuloma of the mastoid or temporal bone is insidious. The first symptom may be a bloodstained otorrhea. Characteristically, there is no pain. However, if a blood vessel or the dura is involved, there may be severe pain and headache. The lesion may appear rapidly and break through the outer table so quickly as to simulate a malignant tumor. In the postauricular region a soft, fluctuant swelling with ill-defined edges may be felt. A chronic draining wound may develop in this area. This has often been mistaken for a postauricular abscess.

On examination, granulations may be seen in the external ear canal. These granulations recur rapidly when removed. The canal may be partially stenosed. A granulomatous swelling may be seen coming through the posterior-superior canal wall. The ear drum is usually intact and hearing normal. In the late stages, deafness, vertigo and facial paralysis may be seen. In spite of these frightening local signs the child usually appears surprisingly well.

DIAGNOSIS

Early diagnosis of eosinophilic granuloma of the temporal bone is most important as the onset is usually insidious and silent and bone destruction is quite widespread by the time signs and symptoms present themselves. As the middle ear cavity is bypassed, at least until a later stage, early treatment may preserve the hearing and protect the labyrinth.

X-rays are quite helpful in the diagnosis of this lesion. The appearance as seen in radiograms is characteristic and unmistakable and resembles no other lesion found in the temporal bone.²⁰ Radiographically, there is a localized, sharply-punched-out area of bone rarefaction, with no surrounding bone reaction. The translucent areas spread out far above, far behind, and well in front of the middle ear.²⁰ The edges of bone loss are sharply defined and clearcut and produce the typical "geographical" out-

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line.²¹ Destruction first appears in the squamous or zygomatic areas.²⁰

A definite diagnosis can be made only by biopsy. The specimen must be adequate, as a small piece of tissue may not show all of the characteristic features of the disease. Exploration and biopsy of the mastoid lesion is usually necessary as tissue from the external canal is not always adequate for diagnosis.

Macroscopically, eosinophilic granuloma of this region appears malignant, grayish-pink in color, soft and friable with a limited membrane.¹¹ With chronicity some fibrosis occurs and the lesion may acquire a firm rubbery consistency. The basic over-all microscopic picture is that of a granulomatous process containing strands of histiocytes, giant multinuclear cells and eosinophils.⁶

DIFFERENTIAL DIAGNOSIS

There are several conditions which should be considered in the differential diagnosis of a destructive temporal bone lesion. Goodhill⁵ has noted that in his series of patients the temporal bone lesion of histiocytosis is frequently mistaken clinically for cholesteatoma. Shea¹⁹ points out that cholesteatomata is limited to the mastoid process and does not involve the petrous portion. A primary cholesteatoma (epidermoid tumor) has a bordering zone of osteosclerosis.⁸ The bone defect of secondary cholesteatoma is usually small and occupies the region of the mastoid antrum.⁸ There is usually a history of chronic drainage and a tympanic membrane defect.

Metastatic osteolytic malignant tumors are usually quite painful and occur in older persons. In primary carcinoma one obtains a history of chronic suppuration with severe pain, bleeding and ulceration. A diagnosis can be confirmed by biopsy of the ear canal. Developmental defects are usually not as extensive and are often bilateral.

Punched-out areas of destruction of the temporal bone may occur in tuberculosis. In this disease antecedent lesions are usually present in the lungs, lymph nodes or other bones. In fungous lesions a bordering zone of bone proliferation is often seen. Syphilis seldom involves the mastoid, but serologic tests should rule out this disease. The lesions of multiple myeloma are usually smaller and more numerous and associated rib involvement is the rule.

TREATMENT

Jaffe and Lichtenstein² report healing of lesions of eosinophilic granuloma without the benefit of treatment. On the other hand, Copeland²² states that

spontaneous healing is rare. To date, no case of regression of eosinophilic granuloma of the temporal bone without treatment has been described.

The three modes of treatment are (1) surgical excision or curettage, (2) irradiation, and (3) steroid therapy. Dingley²⁰ and Topouzian et al.⁶ believe that the most helpful treatment in the case of the temporal bone is prompt surgical removal followed by deep x-ray therapy. Goodhill⁵ and Schuknecht and Perlman⁸ report that eosinophilic granuloma of this region responds equally well to surgery or irradiation. Several authors recommend x-ray therapy alone as the treatment of choice.^{10-12,19} Where this is complicating infection, Schuknecht and Perlman⁸ advise mastoidectomy followed by x-ray therapy.

Steroids have been used in the treatment of histiocytosis.²³ These hormones act directly on the reticulo-endothelial system. They are used symptomatically and should be given over long periods of time. They are particularly useful in the chronic type where diabetes insipidus is present.⁶ In a single, uncomplicated mastoid lesion there would be no need for steroid therapy.

From a practical standpoint, removal of the lesion by curettage at the time of biopsy followed by deep x-ray therapy would appear to be the most logical approach for the treatment of temporal bone histiocytosis.

CASE REPORT

History: This nine-year-old boy was admitted to the hospital on September 5, 1958, with a history of intermittent drainage from his left ear of five months duration, which began shortly after a playmate had traumatized his ear. He had been seen on several occasions through the summer months by his family physician for "ear infections". He had a history of many sore throats and upper respiratory infections.

Findings: Examination revealed hypertrophied tonsils and adenoids. Granulation tissue completely filled the left external ear canal. The ear drum could not be seen. He was having no pain and a general physical examination was essentially normal.

Course: On September 5, 1958, a tonsillectomy and adenoidectomy was performed. Under the same anesthetic the granulations were removed from the left external ear canal. The tissue appeared to be coming from the posterior-superior canal wall. The ear drum was intact and was healthy. An audiogram showed the hearing in each ear to be within normal limits. The pathologist reported the tissue as being "acute and chronically inflamed granulation tissue". At this time, my impression was that this represented

a case of exuberant growth of granulation tissue in the external ear canal probably secondary to trauma. He was discharged the day following surgery.

Despite repeated curettements and cauterizations with silver nitrate, the granulation tissue rapidly reformed in the ear canal. Mastoid x-rays made on September 20, 1958, showed an extensive destructive lesion involving the entire left mastoid which extended deep into the petrous bone. The lesion was almost completely destructive. Its margins were irregular and showed little or no new bone formation. The lesion measured approximately 3.5 cm. in its greatest diameter and was so extensive that no aerated mastoid structure remained.

Because of the persistence of the granulation tissue in the external ear canal and the Roentgen findings of a widespread temporal bone lesion, he was readmitted to the hospital on September 25, 1958. A general physical examination was again essentially normal, except for the ear findings. The external ear canal was filled with granulations and there was slight mastoid tenderness. A neurosurgical consultant found no abnormal neurological findings.

An exploratory mastoid operation was performed on the left ear using a postauricular approach on October 1, 1958. Part of the outer table was completely destroyed. A large mass of granulomatous tissue was found to involve the entire temporal bone with complete necrosis of all mastoid cellular structure and complete exposure of the dura and the lateral sinus. The facial canal was destroyed and the nerve exposed throughout its course in the mastoid bone. The lateral semicircular canal was destroyed. Nowhere did the mass appear to encroach upon either the middle ear or the tympanic membrane. The superior and posterior bony canal walls were completely gone.

The bulk of the tumor mass and necrotic bone was removed. A frozen section examination of the tissue at the time of surgery showed chronic infection and no malignancy. From the permanent sections the pathologist made a diagnosis of eosinophilic granuloma. The wound was closed in the usual manner, leaving an iodoform packing in the mastoid cavity and in the external ear canal.

His postoperative course was uneventful. Within six days the postauricular wound had completely healed and all packs had been removed. The ear drum was intact and healthy and the external ear canal normal. Postoperative x-ray therapy to the left temporal bone was started on the seventh day following surgery, the patient receiving a total of 1800 r.

X-rays made of the skull, chest, pelvis, hips and spine showed no evidence of any other osseous lesions. He was discharged in good condition October 11, 1958. At the suggestion of a pediatric consultant, he was placed on prednisone for a two-week period following discharge.

Postoperative audiograms showed normal hearing in the left ear in the speech range, but a drop to below 60 db. at the frequencies of 4,000, 6,000 and 8,000. Caloric testing at this time showed a normal response in the right ear, but no response in the left ear. An audiogram on March 28, 1959, showed a drop in hearing in the left ear in the speech range to the 50 db. level. Up to the present time the tympanic membrane and external ear canal have remained intact and healthy. The patient has shown no signs of the development of any other lesions.



Fig. 1. X-rays of right mastoid showing normal cellular development. (A) Stenver's position. (B) Law position.

SUMMARY AND CONCLUSIONS

Histiocytosis is a clinico-pathological entity which may appear as a benign state known as eosinophilic granuloma; an acute, usually fatal form, known as Letterer-Siwe's disease; or as a subacute or chronic serious stage known as Hand-Schüller-Christian's disease. It is important for the otolaryngologist to



Fig. 2. X-rays of left mastoid showing extensive destruction from eosinophilic granuloma. (A) Stenver's position. (B) Law position.

be highly conscious of the relative frequency of this disease inasmuch as it may involve the temporal bone.

A case of eosinophilic granuloma of the temporal bone has been presented and the problems in symptomatology, diagnosis and therapy reviewed. Early diagnosis is important as response to treatment of this disease, if started promptly, is usually good. The onset is insidious and silent and by the time signs and symptoms present themselves much bone destruction has already taken place. When the posterior bony meatal wall is broken down and the meatus entered, the case is already far advanced. Fortunately, the middle ear cavity is usually bypassed, at least until a late stage, and for this reason early treatment may be hopeful of preserving hearing.

Although the outlook in a single lesion of the temporal bone may be good, the prognosis should be guarded for the lesion may be a local manifestation of a more general disseminated disorder.

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Voluntary Prepayment Plans

The Sub-Committee on Voluntary Prepayment Plans of the Medical Service Committee has reviewed with the Virginia Committee of the Health Insurance Council certain problems common to physicians and the insurance industry. The following is a discussion of two such items.

1. Completion of proofs of continued disability (HIC forms I.D.S. 1 or G.D.S. 1)

The completion of these forms is an obvious burden to some physicians. Many physicians have a strong conviction that the companies require these forms at too frequent intervals. The insurance companies need evidence of disability as a basis of paying claims. Most of this business is written on a group basis and the insurer must be in a position to justify paying out the policy-owner's money. Claim managers state that many of the forms appear to be filled out in a perfunctory fashion and without serious regard to the disability of the patient.

It is the opinion of the two committees that insurance companies should make a real effort not to require proofs more often than absolutely necessary; that claimants with long-term illness should not be required to submit evidence of disability each week or each month, but that benefits should be approved for as extended a period as possible, in accordance with the prognosis as listed in the original proofs.

Physicians, on the other hand, should not permit the existence of insurance to interfere with recovery and rehabilitation of their patients by certifying disability for a longer period of time than is justified.

2. Cases involving litigation.

When a physician is called upon to assist a patient in a legal suit, he is justified in charging a fee for this service, however, this fee should not be considered as part of the charge for providing medical care. This is particularly important when comprehensive or major medical insurance is involved. A major medical policy contains no schedule of fees and is designed to cover only medical care and not medical assistance concerned with litigation. Itemization of bills in such cases is necessary for proper payment of claims.

Primary Reticulum Cell Sarcoma of the Heart

Report of a Case

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PRIMARY NEOPLASMS of the heart often cause an enigmatic persistent cardiac failure which may terminate in rather sudden death. Approximately thirty cases of primary lymphoma (round cell, lymphocytic and reticulum cell sarcoma) of the heart have been reported. This report describes a case which illustrates the cardinal clinical and anatomical features of primary neoplastic disease of the heart. Very excellent reviews of this literature have been published by Whorton¹² and Brucker and Glassy.²

CASE REPORT

Clinical History: A 44 year-old colored female was admitted to the University of Virginia Hospital (#436390) with a complaint of shortness of breath. Nine months prior to admission she noted onset of rather severe chest pain which was knife-like in character, radiated from the left breast to the right upper quadrant, and which was made worse by exertion. The pain was of short duration and was relieved by rest. Three weeks prior to admission, she began to have episodes of orthopnea, necessitating her sitting up for ten to fifteen minutes for relief. Dyspnea occurred after ascending one flight of stairs and she was unable to continue her work as a maid.

Physical examination revealed a cooperative, well-developed, well nourished, colored female who appeared her stated age. Her blood pressure was 130/90 mm. of mercury right arm, 120/80 mm. of mercury left arm; pulse regular at 80; respiration 22 per minute; and temperature 98.6° orally. There were increased venous pathways over the upper chest. The neck veins were distended. There was one small movable node in the left axilla, no other palpable nodes. The breast were small and of even consistency throughout. The lung fields revealed dullness over both bases posteriorly with fine moist rales bilaterally. Dullness over the cardiac area extended to the mid-axillary line; the point of maximum impulse was not palpable. Cardiac sounds

were distant except over the base with the patient in the upright position. No murmurs were heard. The liver was enlarged 9 cms. below the right costal margin. The spleen was not enlarged. There was a small umbilical hernia. There was moderate pitting edema to the mid-thighs bilaterally.

Laboratory examination showed a hemoglobin of 10 grams, a red-cell count of 2.99 million cells, a white-cell count of 6,100, and a negative serological test for syphilis. The urine had a specific gravity of 1.019 with a trace of albumin and no sugar. The venous pressure was 450 mms. of saline. An electrocardiogram shortly after admission revealed a first degree block with a rate of 70; PR interval 2.26 seconds, QRS complex 2.08 seconds; low voltage of the QRS complex, QT interval of 0.42 seconds. There was some evidence of subepicardial injury of the lateral wall. Changes compatible with myxedema heart disease were suggested. Seven days later, the day of death, an electrocardiogram showed a first degree block which has increased since the first tracing. The rate was 74; PR interval 0.32 seconds; QT interval 0.40 seconds; and low voltage of the QRS complex. Again myxedema heart disease was suggested. On fluoroscopy of the chest the heart shadow was tremendously enlarged, being broad below and narrow above suggesting a pericardial effusion. The lung fields were clear.

The patient improved symptomatically while in the hospital. A pericardial tap was planned; however, this was delayed due to the patient's general improvement. After being up and about the ward with no specific complaints the patient was found dead in bed on the ninth hospital day.

POST-MORTEM EXAMINATION

The pericardial cavity was distended with one thousand cc. of straw colored fluid. The pericardium was smooth and glistening. The heart weighed 570 gms. A greyish-white tumor covered approximately three-fourths of the surface of the heart, extending across both the left and right ventricles. On opening the heart approximately five-sixths of the wall

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of the left ventricle was replaced by tumor tissue. (Fig. 1) This tissue extended from the endocardium to the epicardium and in areas appeared as solid sheets of grey-white, firm tissue. The wall of the left ventricle was thickened to 25 mm. due to the



Fig. 1—Cut surface of the left ventricle showing the white tumor tissue.

tumor growth. In addition to this, there was wide extension of the tumor throughout the remainder of the myocardium of both right and left ventricles in the form of circumscribed nodules of tumor tissue grossly separated from the main tumor mass. The tumor extended into the interauricular septum; however, other than for one small tumor mass on the endocardial surface of the right atrium both atria were free of tumor. The coronary vessels passed through the tumor tissue, and although the tumor in some places narrowed the lumens of the coronary veins and arteries, the vessels for the most part were completely unobstructed.

Examination of the other viscera showed a flattened, button-like mass of tumor tissue measuring 2.5 cm. in greatest diameter in the anterior wall of the stomach near the greater curvature. Seven similar lesions were found spaced at intervals in the wall of the small intestine. (Fig. 2) None of these lesions ulcerated or eroded the mucosa. There were no lesions in the large intestines. Inferior to the bladder between the urethra and the anterior aspect of the vagina there was a tumor nodule which measured 3 cm. in greatest diameter.

There was no tumor tissue in any other organ.



Fig. 2—The small intestine showing the button-like tumor nodule.

The lymph nodes were not enlarged and contained no apparent tumor tissue. The lungs showed congestion and edema. The liver weighed 1860 gms. and showed only congestion. One small pigment stone was present in the otherwise normal gallbladder. The kidneys showed slight scarring. The spleen weighed 160 gms. and showed slight congestion.

Histological Examination: The tissue was fixed in Zenker's formal solution. Hematoxylin eosin and Wilder's reticulum stains were used.

On microscopic examination, the tumor noted in the heart was also present in the wall of the stomach, small intestine, and in the periurethral region. All lymph nodes studied were free of tumor as were all other organs.

Examination of sections of the right ventricle showed large solid masses of tumor cells with a somewhat irregular arrangement of the individual cells. In other areas the tumor cells infiltrated between the muscle fibers causing atrophy of the muscle fibers and in still other areas the muscle fibers were moderately well preserved with irregular rows of tumor cells between them. (Fig. 3) The individual tumor cells were oval and round, varying slightly in size and shape. Many of the nuclei were

hyperchromatic; others had a lightly stained chromatin pattern with scattered dots of chromatin near the nuclear membrane. Many prominent nucleoli were seen. The nuclei varied somewhat in size and shape showing in some instances slight indentation. There were a few scattered multinucleated giant cells. Sections stained with Wilder's reticulum stain showed an abundant reticulin pattern, apparently produced by the host tissue as a reaction to the tumor.

rious arteries, especially the aorta. Sections of the bone marrow revealed no abnormalities.

DISCUSSION

The name "reticulum cell sarcoma" as applied to a member of the lymphoma group which has the morphological and cytological characteristics described above is in reality a poor term. There is not unanimity of opinion as to the derivation of the

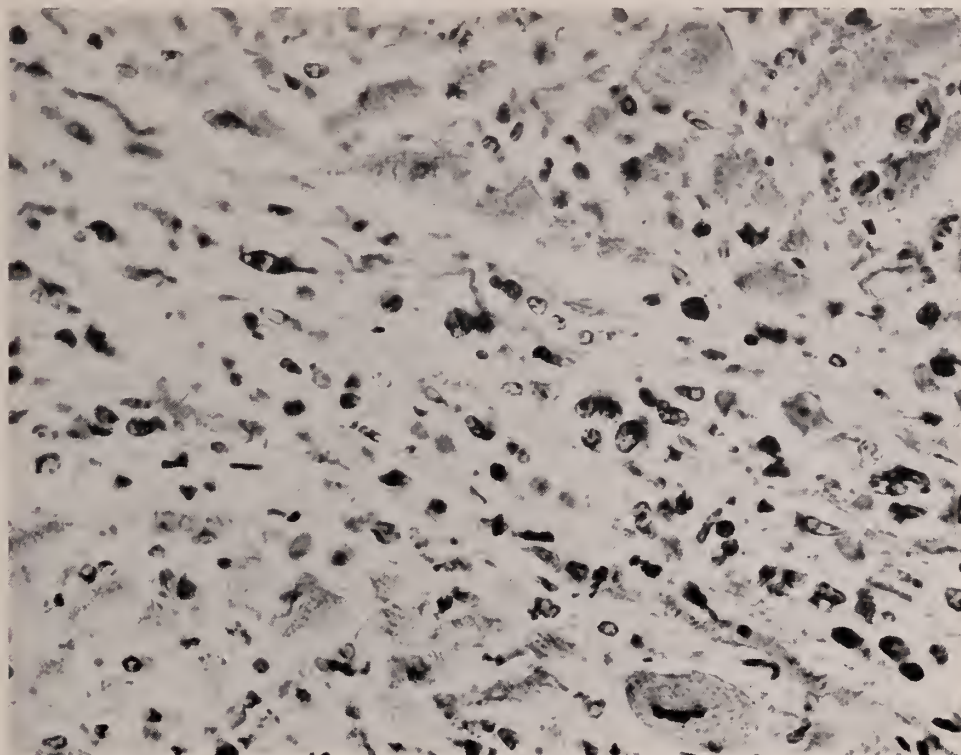


Fig. 3—Sections from the left ventricle showing the tumor cells between the muscle bundles. Hematoxylin and Eosin stain; photomicrograph 550 X.

No association of the reticulin fibrils and individual tumor cells could be demonstrated. Sections of the coronary vessels showed accumulations of the tumor tissue in the subendothelial region such that there was considerable encroachment upon the lumen of the vessels. (Fig. 4) The individual tumor nodules in the heart were well circumscribed and presented the same histological picture as the main tumor mass. The tumor masses in the wall of the stomach and small intestine and the tumor mass between the urethra and the inferior aspect of the bladder all had a similar microscopic appearance.

Sections of the lymph nodes from various groups revealed only sinus hyperplasia. There was microscopic evidence of congestion of the liver, spleen, kidneys, and of congestion and edema of the lungs. A few arteriosclerotic changes were present in va-

so called "reticulum cell."^{4,5,7} Jackson and Parker⁶ believe the reticulum cell to be identical with the histocyte, clasmatocyte, macrophage, or large wandering mononuclear cell. Gall⁴ has discussed very completely the confusion that exists in the literature concerning not only the derivation of the reticulum cell but also the confusion which exists in the efforts to classify neoplasms as reticulum cell sarcoma. He suggests that the terms reticulum cell and reticulum cell sarcoma be discarded and that this related group of conditions be classified in terms of recognizable qualities of their component cells. The fibrillar network, occurring around the tumor cells, which has so long been associated with the diagnosis of reticulum cell sarcoma is believed to be a reaction of the host tissue and not a product of the neoplastic cells.

Regardless of the deficiencies of nomenclature, it

is believed that the term reticulum cell sarcoma does describe a member of the lymphoma group which has characteristics not common to other lymphomas.

Cytologically the cell comprising the tumor in reticulum cell sarcoma is $1\frac{1}{2}$ to 2 times larger than the lymphocyte of lymphosarcoma. There seems to be more variation in size and shape of the nucleus, more binucleate forms and indented nuclei in case of reticulum cell sarcoma. Reticulum cell sarcoma has a great tendency to invade the wall of veins. This may be due to an amoeboid tendency of the cell.⁶ Two unusual aspects of reticulum cell sarcoma, primary in an organ other than the lymph

to be the site of primary malignant tumor. Primary reticulum cell sarcomas comprise approximately 30 per cent of such cases. Impressive aspects of the clinical picture in this patient were the few clinical signs and symptoms, a relatively short history, and the massive involvement of the myocardium found at autopsy. Apparently many of the patients with primary cardiac malignancy die suddenly, presumably from a conduction disturbance. There is often a history of heart failure of six to eight months duration without obvious organic cause.

One of the most consistent signs in primary cardiac tumors of all types is the presence of pericardial



Fig. 4—Section of a coronary vein showing narrowing of the vein lumen by the growth of the tumor in the subendothelial region. Hematoxylin and Eosin stain; photomicrograph 96 X.

nodes, are the low occurrence or absence of lymph node involvement and the tendency of the tumor to invade the wall of veins.

The presence of a few multinucleated giant cells would not necessarily place this tumor in the Hodgkin's sarcoma group. Callender³ makes no distinction between reticulum cell sarcoma and Hodgkin's sarcoma stating that they are one and the same disease.

In clinical practice the heart is not often found

effusion. Out of one hundred cases reviewed by Whorton¹² forty-three of the cases make no mention of the state of the pericardium; out of the remaining fifty-seven cases twenty-seven had pericardial effusion and in twenty of these cases the fluid is described as bloody. In Brucker and Glassy's² review of forty-three cases of primary malignant tumors of the heart nine cases make no mention of the state of the pericardium; out of the remaining thirty-four cases nineteen had pericardial effusion and in seven-

teen of these cases there was hemopericardium. Many authors^{1,8,9,10,11} emphasize the point that hemopericardium may be more common with primary tumors of the heart than with metastatic cardiac neoplasms. Primary lymphomas of the heart should behave like other primary malignant tumors of the heart. Although the absence of malignant cells in the pericardial fluid sediment would not rule out the diagnosis, certainly the presence of these cells might well lead to the correct diagnosis. Malignant cells were found in one¹² of the seventeen cases with hemopericardium reviewed by Brucker and Glassy.²

In the roentgenographic examination of the heart it is important to distinguish, when possible, pericardial effusion from cardiac hypertrophy. Frequently a nob or irregular enlargement may be outlined on either the auricle or ventricle giving a clue as to the primary nature of the disease of the heart. Establishment of pneumopericardium may likewise be helpful in the roentgenographic diagnosis of a cardiac tumor.

The electrocardiographic changes for the most part are those of disturbances in the conduction system.

SUMMARY

This report describes a case of primary reticulum cell sarcoma of the heart in which the clinical signs and symptoms of persistent unexplained cardiac failure were fairly typical of recorded experience with primary cardiac tumors.

Reticulum cells are closely related to or identical with the histocyte of mononuclear cell. Neoplasms having their derivation from this cell therefore may occur in almost any tissue in the body.

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Air-Conditioning and Heart Disease

Patients with heart disease who must be hospitalized in hot weather are greatly helped by air-conditioning of their rooms. They are helped because the air-conditioning eliminates sweating, which causes the cardiovascular system to work harder than usual. Thus it prevents additional strain on an already damaged heart. Air-conditioning of hospital rooms is also especially helpful to patients with chronic illnesses and with bronchial asthma.

Writing in the May 9th Journal of the American Medical Association, Drs. George E. Burch and Nicholas DePasquale said air-conditioning as an adjunct to regular treatment "has not received the emphasis in medical literature that it deserves."

They compared two groups of patients treated at

Charity Hospital, New Orleans, in air-conditioned and non-air-conditioned wards. They found that air-conditioning benefited most patients, although a few could not stand it at all. They complained of the cold and of having "stuffy" noses.

The air-conditioning was beneficial to patients mainly because they slept more soundly, longer, and more restful. Patients who were short of breath found it easier to breathe, thus relieving anxiety and apprehension.

On the whole, air-conditioning "eliminated sweating, fostered a calm and quiet atmosphere, improved morale of both patients and attending personnel, removed allergens from the environment, and increased the tolerance of enforced bed rest."

Hyperparathyroidism and Peptic Ulcer

Case Report of an Enigmatic Association

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THE CLINICAL DIAGNOSIS of hyperparathyroidism is rarely made early in the disease, and when symptoms are present they are generally due to secondary effects of this endocrinopathy. These symptoms are usually caused by the formation and passage of renal calculi or the excessive rate of mobilization of calcium from bone resulting in bone weakness and pain.¹ Occasionally, hyperparathyroidism will produce exceedingly high serum calcium levels leading to the symptoms of intractable nausea, vomiting, abdominal pain, and drowsiness progressing to coma. This symptom complex has been called "hypercalcemic crisis."² An unusual and poorly understood feature of some cases of hyperparathyroidism is the coexistent presence of intractable peptic ulcer.³⁻⁶ The following case report illustrates this association.

CASE REPORT

E. C., a 23 year old, single NF, was admitted to St. Philip Hospital on May 2, 1957, with a chief complaint of abdominal pain and hematemesis. In March, 1956, she began to have intermittent gnawing epigastric pain, usually relieved by ingestion of food, but sometimes aggravated by food. She was told she had gall bladder disease and placed on a low fat diet. This did not affect her major complaint and she began to vomit frequently. In August, 1956, she was hospitalized at a local hospital and placed on an "ulcer diet" for three weeks. However, her symptoms did not improve, and in October, 1956, a subtotal gastrectomy was performed with removal of a large gastric ulcer. Postoperatively she felt better and was able to return to her job as a hospital aide, but after a month she had to stop work because of pain which seemed to originate in her surgical scar and radiate around to the right costovertebral angle. This pain was most severe at night and was not relieved by medication. In April, 1957, she was hospitalized again and a G.I. series was said to show hypertrophic gastritis. She had one small hematemesis and was given two units of blood during her hospital stay. She was discharged on an ulcer diet and felt well for about a week. Following this, her

original pain recurred and later, on the day prior to her admission to St. Philip, she had a massive hematemesis of bright red blood. During the one year course of this illness, she lost about 50 pounds.

On examination she appeared thin and apathetic. Her skin was rather rough and mucous membranes were pale. Examination was remarkable only in the presence of an apical systolic murmur, and the absence of abdominal tenderness. Hemoglobin on admission was 7.9 gm% with a red blood count of 3.4 million. Urinalysis was unremarkable. There was marked hypochromia of the red blood cells on blood smear. She was placed on milk and cream every hour with gradual progression to a 6-feeding diet. In addition, she was given 1 unit of whole blood, and ferrous sulfate by mouth. On this regimen her abdominal pain ceased and her hemoglobin rose to near normal levels in three weeks.

G.I. series on the day after admission showed a small gastric stump with an estimated one-quarter of the stomach remaining. The mucosal pattern of the gastric remnant was roughened. There was a large 1x2 cm. ulcer of the efferent jejunal loop about 2 cm. distal to the anastomosis. Repeat G.I. x-rays following therapy showed marked reduction in size of this ulcer. Another interesting aspect of this patient's illness came to light when her serum calcium was found to be 13.2 mgm.% with serum phosphorus of 2.6 mgm.%. Serial determinations of serum calcium ranged from 13.3-13.5 mgm.% with phosphorus of 2.8-3.0 mgm.%. She was placed on a diet containing less than 200 mgm. of calcium a day and after seven days her urinary calcium was determined on three consecutive days. The values ranged from 303 mgm. to 460 mgm. per day or approximately 2-3 times the expected normal. The diagnosis of hyperparathyroidism was then established on the basis of abnormally elevated serum calcium, abnormally depressed serum phosphorus, and increased urinary excretion of calcium on a low calcium diet. X-ray films of the mandible showed an intact lamina dura and skull films showed no bony pathology. IVP was entirely normal and

barium swallow showed no displacement of or pressure on the esophagus.

Surgical exploration of the neck to search for a parathyroid adenoma was strongly recommended to the patient, but she refused to consent to this procedure. At her request she was discharged from the hospital on May 25, 1957, and did not return for follow-up visits.

Her symptoms of epigastric pain relieved by food accompanied by melena recurred shortly after discharge from the hospital. In September, 1957, she was given several blood transfusions and on October 11, 1957, she was admitted to a hospital in another city because of severe anemia. (Unfortunately, her attending physicians were not aware of her hyperparathyroid state.) She had persistent melena and abdominal exploration was carried out on October 28, 1957. She was found to have a perforated stomal ulcer with localized peritonitis. Surgery was technically quite difficult because of her previous operation and was followed by serious complications. She had to be re-explored on October 31 and November 12 because of peritonitis and intra-abdominal bleeding. She did very poorly following surgery and died on November 12, 1957. No autopsy was performed but during her hospital stay her serum calcium was determined on two occasions and found to be 11 and 14.9 mgm. %.

DISCUSSION

Anorexia, vomiting, and epigastric pain as symptoms of hyperparathyroidism were mentioned by Gutman, et al in 1934.⁷ It was not until 10 years later that the association of intractable peptic ulcer and hyperparathyroidism was reported.⁴ There were two striking features of these cases which helped to distinguish them from the usual peptic ulcer. There was frequent vomiting without evidence of pyloric obstruction. And secondly, the usual ulcer diet which relied heavily on milk and dairy products tended to aggravate the vomiting, anorexia, and lethargy. This latter effect was clearly a sequela of hypercalcemia. Since these earlier reports the association of peptic ulcer and hyperparathyroidism has been seen to occur too frequently to be attributed to chance alone. Howard has said that 15% of the patients at Johns Hopkins Hospital diagnosed as having hyperparathyroidism had coexistent peptic ulcers.⁶ A review of 137 cases of hyperparathyroidism at Massachusetts General Hospital showed 12 cases with peptic ulcer or an incidence of 8.8%.⁵ In this group follow-up information was available on only seven

patients. Two of these patients had gastric surgery prior to parathyroidectomy, but the other five patients had no recurrence of ulcer symptoms following surgical correction of hyperparathyroidism.

The pathogenesis of peptic ulcer in hyperparathyroidism is not known. Albright points to constipation and decreased intestinal motility which frequently accompany hyperparathyroidism. This motility disturbance, he believes, prevents healing of would be "silent" ulcers, and allows their progression to symptomatic ulceration.⁵ Another possible explanation is suggested by the demonstration of calcium precipitation and tiny ulcerations in the gastric mucosa of dogs given large doses of parenteral parathormone.⁸ However, calcium deposits have not been found in the stomachs removed from hyperparathyroid patients with peptic ulcer.

Hyperparathyroidism is not frequently seen despite certain improvement in the chemical tools used for its recognition. When diagnosed cases are reviewed retrospectively, one is often able to detect clues which had been present at some time during the course of the disease and which, if investigated more thoroughly at their onset, might have led to an earlier diagnosis. Recurrent renal calculi, unexplained back pain, fractures of long bones from relatively minor trauma—these are leads which may draw the physician's attention to a consideration of the patient's calcium and phosphorus metabolism. It is suggested that peptic ulcer which responds unfavorably or atypically to the usual medical management should be included in the above list of clinical clues to the diagnosis of hyperparathyroidism.

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Adrenalectomy for Far-Advanced Breast Carcinoma

A Report of Sixteen Cases

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IN RECENT YEARS greater palliation of symptomatic incurable breast carcinoma has become a reality because of better utilization of older methods of therapy and the addition of certain new methods of therapy. These methods of treatment, which still must be termed empiric, in that their mode of action is as yet obscure, fall into several general categories which are: 1, radiation therapy given as conventional radiation, supervoltage radiation, or radioactive isotopes; 2, the administration of hormones such as androgens, estrogens and cortisone; and 3, operative ablative procedures such as oophorectomy, adrenalectomy and hypophysectomy. It should be remembered that radiation therapy is still the most effective method, both in respect to the percentage of favorable responses and duration of response. Therefore, when feasible, this form of palliative therapy should be the first one used and should be continued for as long as it is effective in controlling the disease.

The use of these methods of therapy are governed by general principles evolved from past experience, rather than an understanding of the differences inherent in breast cancer or the mechanism of actions of the various manipulations. A careful evaluation of the particular patient in question is important and should include age (specifically in regard to menopause), extent of the disease, types of metastatic involvement and response, favorable or unfavorable, to previous procedures. By using the guides of past experience and such evaluations, the therapy which will yield the greatest palliation in each case may be selected. The effects of the procedures thus selected must be carefully followed for these bear direct relationship to the type of therapy which should be used when relapse, which is inevitable, occurs.

The effectiveness of bilateral adrenalectomy, either alone or in combination with bilateral oophorectomy, for control of certain breast carcinomas is well es-

tablished by numerous reports since the original work of Huggins and Bergenstal¹ in 1952.

The purpose of this paper is to present the results of a group of patients having far-advanced breast carcinoma in whom adrenalectomy was used as a method of palliation.

PATIENT SERIES

Sixteen female patients with uncontrolled breast carcinoma had bilateral adrenalectomy as a palliative procedure. The type of original therapy which they had received is shown in Table I. Bilateral oophorec-

TABLE I: ADRENALECTOMY—ORIGINAL THERAPY

Radical Mastectomy only	5
Radical Mastectomy and X-ray	5
Radical Mastectomy and Castration	1
Radical Mastectomy, Castration and X-ray	1
Radical Mastectomy, X-ray and Hormones	1
Simple Mastectomy and X-ray	1
Hormones only	1
None	1

TOTAL CASES 16

tomy was combined with adrenalectomy in menopausal or premenopausal patients who had not previously had oophorectomy. There were 13 patients who had recurrent disease following radical mastectomy which had failed to respond to other forms of palliative therapy or had relapsed after effective previous palliative measures. Two patients, because of far-advanced disease when first seen, did not have definitive breast surgery and were uncontrolled by other palliative procedures. One patient, because of far-advanced, widespread, rapidly progressive disease had adrenalectomy and oophorectomy as the first type of therapy. The youngest patient was 34 years of age, the oldest 67, with the average age being 53 years. Seven patients were premenopausal; two were menopausal, all but one of whom had prophylactic or therapeutic oophorectomy before adrenalectomy; and seven patients had a normal menopause before adrenalectomy. Table II indicates the menstrual status of these patients.

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TABLE II: MENSTRUAL STATUS

PREMENOPAUSAL	
Prophylactic Castration -----	2
Therapeutic Castration -----	5
	<hr/> 7
MENOPAUSAL	
Therapeutic Castration -----	1
Castration with Adrenalectomy -----	1
	<hr/> 2
POSTMENOPAUSAL	
	7
	<hr/>
TOTAL CASES	16

The palliative procedures used between the initial treatment and adrenalectomy are listed in Table III.

TABLE III: PALLIATIVE PROCEDURES* FOLLOWING ORIGINAL THERAPY BEFORE ADRENALECTOMY

X-ray Therapy -----	6
Oophorectomy -----	6
Hypophysectomy -----	2
Contralateral Mastectomy -----	2
Androgens -----	1
Estrogens -----	1

*Of sixteen patients, ten had eighteen palliative procedures

TABLE IV: ADRENALECTOMY (DISTRIBUTION OF METASTATIC DISEASE)*

Soft Tissue -----	10
Lymphatic -----	7
Bone Disease -----	8
Visceral -----	8

*Eleven patients had multiple sites, and five patients had a single site of disease.

Hormonal therapy was used in two patients prior to adrenalectomy, androgen is one with a favorable response, estrogens in another without effect. Two patients had previous hypophysectomy which failed to control their disease. The distribution of the metastatic lesions is shown in Table IV. Eleven of the 16 patients had multiple sites of metastatic involvement and five had only a single demonstrable site of metastatic involvement.

CRITERIA FOR SELECTION OF PATIENTS

Poor operative risk patients were not excluded, whether their increased risk was due to unrelated organic disease or to the far-advanced nature of the metastatic disease. It is not our general policy to advise adrenalectomy until the patient's disease can no longer be controlled by radiation therapy when applicable. The only patients that had adrenalectomy before the effectiveness of x-ray therapy had been exhausted were those who had widespread metastatic and local disease. Premenopausal patients all had oophorectomy before adrenalectomy either as

a prophylactic procedure at the time of their initial treatment or as the first form of palliation for recurrent disease. Menopausal patients had adrenalectomy and oophorectomy as a combined procedure. Those who were more than five years postmenopausal had only adrenalectomy.

The criteria for the selection of patients who will have regression of tumor by adrenalectomy are not clear but there are certain indications which help in predicting to some extent the chance of a remission following removal of the adrenals. The most important of these is the patient's response to oophorectomy. About 40 per cent of patients who have had a favorable response to oophorectomy will have another remission following adrenalectomy. Metastatic bone disease, especially if it had responded well to androgens, is more likely to regress following adrenalectomy than soft tissue disease although the latter may sometimes respond dramatically. The presence of extensive metastatic involvement of the liver, symptomatic intracranial metastases, and diffuse infiltrative pulmonary involvement with reduced vital capacity are considered contra-indications to adrenalectomy. The presence of nodular pulmonary metastases or pleural effusion, however, are not necessarily considered a deterrent to this surgery.^{2,3,4}

OPERATIVE PROCEDURE

The usual preoperative evaluation was carried out in all patients. Anemia and decreased blood volume were corrected by transfusion. Thoracentesis and the occasional instillation of radioactive gold were used preoperatively to improve vital capacity if this had been decreased by pleural effusion. To improve one patient's condition sufficiently to permit operation, cobalt therapy was employed for a mediastinal metastasis which was causing a superior mediastinal syndrome.

The evening prior to operation, all patients received 100 mg. of cortisone intramuscularly three times at four-hour intervals. The morning of operation each received 100 mg. of cortisone *per os* and 100 mg. intramuscularly. General endotracheal anesthesia was used in all cases.

Adrenalectomy can be readily accomplished either transabdominally or through lumbar incisions over the eleventh or twelfth ribs. The abdominal approach was used for those patients who were to have bilateral oophorectomy in conjunction with adrenalectomy. A long transverse incision midway between the xiphoid and umbilicus and extending to each flank gave excellent exposure even in the obese patient. A Kocher

incision was made in the posterior parietal peritoneum and the duodenum and head of the pancreas were mobilized. These structures were then retracted to the left and downward. The posterior edge of the right lobe of the liver which was protected by a laparotomy pad was retracted cephalad. The right kidney was retracted inferiorly to expose the right adrenal. The dissection of the gland was accomplished taking great care to leave the capsule intact. The vessels, both venous and arterial, were ligated in continuity and divided. Exposure of the left adrenal for a similar dissection was through the gastrocolic omentum, with retraction of the stomach upward and the spleen and tail of the pancreas downward. The left kidney was retracted inferiorly to bring the adrenal down and to the left.

Those patients with extensive liver metastases who had undergone oophorectomy were operated upon through lumbar incisions. These patients were placed prone on the table and secured with straps, shoulder and lateral chest braces in order to tilt and flex the table sufficiently to gain excellent exposure for either the right or left gland without repositioning and draping the patient. In each case, the eleventh or twelfth rib was resected and the retroperitoneal space about the kidney on each side was entered through the most dependent portion of the incision to avoid inadvertent entrance into the pleural cavity. Inferior traction on the kidney brought the adrenals down and facilitated exposure of their superior and medial surfaces.

COMPLICATIONS

The two complications encountered were hemorrhage and entrance into the pleural cavity. Intratracheal anesthesia was used in all patients and entrance into one or both pleural cavities was promptly recognized, closed and the air removed from the pleural cavity. Hemorrhage of note was from two sources: Injury to the vena cava and damage to the spleen. Blood replacement was utilized and rents in the vena cava were closed with minimal difficulty by suture, and bleeding from the damaged spleen was controlled by splenectomy. Pancreatic injury was not a problem. Hypotension was a hazard only when blood replacement was not prompt and adequate. In two patients in whom hypotension persisted in spite of what was thought to be adequate replacement, 100 mg. of cortisone was given intravenously in 5% glucose as a drip over a period of several hours with satisfactory response.

Postoperatively, each patient's intake and output was charted hourly. Intravenous infusion of 5%

glucose at a rate of 100 cc. per hour was administered for the first 48 hours. Cortisone, 50 mg. intramuscularly, was given every four hours. On the second or third postoperative day, if the postoperative ileus had subsided, the patients were placed on a salt-free liquid diet which was increased if well tolerated. Cortisone was then given by mouth rather than parenterally and was decreased 50 mg. per day starting on the third postoperative day until a maintenance dose of 50 mg. per 24 hours was reached.

RESULTS

The results of adrenalectomy were assessed both in regard to subjective and objective effects. We believe that subjective responses as manifested by relief of pain, increased sense of well-being, decrease in cough and dyspnea, and weight gain should not be considered improvement if there is progression of the disease as evidenced by recurrent lesions or the appearance of new sites of disease. Subjective improvement in the absence of objective improvement of the disease is also of questionable importance. For our purposes, only those patients showing subjective and objective improvement are considered definitely to have been favorably influenced by adrenalectomy. The regression of soft tissue, visceral or bone lesions and the absence of new lesions constituted a favorable response. When there was progression of one type of lesion and regression of others, the response was not considered favorable.

The duration of survival for the group of sixteen

TABLE V: ADRENALECTOMY: DEATHS AND SURVIVALS	
DEATHS	
Operative Deaths	1
Less than three months	4
Three to six months	3
Six to twelve months	2
	10
SURVIVALS	
Less than three months	3
Three to six months	1
Six to twelve months	2
	6
TOTAL CASES 16	

patients is shown in Table V. There was one operative death in the group of sixteen patients because of a cardiovascular accident during or shortly after the operative procedure. This patient had previously undergone hypophysectomy, which was incomplete, for advanced metastatic bone disease with multiple fractures. All other patients survived for over thirty

days regardless of surgical response. Nine patients that lived one to seven months following the adrenalectomy did not have a satisfactory response to the procedure. (Table VI) The eight patients with vis-

TABLE VI: RESPONSE TO ADRENALECTOMY

No Response or Operative Death	9
Remission of Soft Tissue Lesions; Progression of Bone Lesions	1
All Lesions Improved	4
Undetermined Response	2
<hr/>	
TOTAL CASES	16

ceral metastasis, three of whom had liver metastasis were all in this group. One of the patients survived eight months after operation. She had a favorable initial subjective and objective response of both soft tissue and bone lesions; however, there was later marked progression of the bone lesions but continued regression of the soft tissue lesions. Four patients survived six to over twelve months with evidence of both subjective and objective improvements. Two of these four had predominately bone lesions; one had both widespread bone and soft tissue disease; and one had bone, soft tissue and pleural metastases with pleural effusion. All returned to their usual daily routine with few limitations. In two patients, the procedure was too recent to determine the response.

Maintenance of the patients on cortisone, 50 mg. daily, has given rise to minimal difficulty. On one or two occasions, because of intercurrent infections such as influenza, pneumonia, or gastro-enteritis, hospital care has been required for a day or two for increased cortisone administration parenterally to prevent "adrenal insufficiency".

SUMMARY

Adrenalectomy, alone or combined with oophorectomy, offers significant palliation for certain patients having far-advanced breast carcinoma. The procedure can be accomplished with an acceptable operative risk even in patients who have not only far-advanced malignant disease but whose condition is further complicated by associated organic disease as well. The criteria for the selection of candidates who will benefit from these procedures are not well established but the use of certain principles predict to some extent the type of response which may be expected.

The improvement is thought to be due to the reduction of estrogens. This is confirmed in part by the fact that those patients who have shown a favorable response to a previous manipulation with reduction

of estrogens, are most likely to have another remission following adrenalectomy. These are patients who very likely have been benefited by castration, testosterone, or corticosteroids. This is not without exception, however, for failure to respond previously to one or more of these procedures does not preclude a good result following adrenalectomy, though the chance is less. Conversely, an excellent response following a previous procedure which decreased estrogens does not assure the same result following adrenalectomy.^{2,3,4}

The likelihood of benefit following adrenalectomy is influenced at least in part by the type of metastatic involvement. Liver and visceral metastatic disease show little response and perhaps the procedure should not be offered in this group of patients. Metastatic bone disease is more frequently influenced and soft tissue lesions, in a fair percentage of cases. Adhering to these principles, this procedure can be accomplished without undue risk or sequelae and in 40 per cent of cases, will result in six to twelve months' remission of breast carcinoma.^{3,4}

CONCLUSIONS

1. Sixteen cases of adrenalectomy or adrenalectomy combined with oophorectomy for far-advanced carcinoma of the breast have been reported.
2. There was one operative death (first 30 days postoperative) in the group of 16 patients.
3. There were no major operative or postoperative complications.
4. Four of the 16 patients had a remission of their disease as evidenced both by objective and subjective findings for a period of six to over 12 months.
5. Some of the indications and principles for the use of adrenalectomy as a palliative procedure in far-advanced breast carcinoma have been discussed.

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Cholecystostomy

A Modern Reappraisal

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THE SURGICAL LITERATURE is replete with reviews of the treatment of acute cholecystitis. Stone and Owings¹ in 1933 felt that prompt surgical intervention was the procedure of choice in all types of acute cholecystitis and that cholecystectomy almost without exception could be performed. Dunphy and Ross² in 1949 advocated the policy of individual management, and in a series of 134 patients operated upon for acute cholecystitis, cholecystectomy was performed in 114 cases with no operative deaths. Cholecystostomy was undertaken in 20 of the 134 cases with two operative deaths. Buxton and his co-workers in a series of 109 cases of acute cholecystitis found that 45 per cent had a palpable gallbladder. In the series, 42 had cholecystectomy with an operative mortality of 11.9 per cent. There were 31 patients with a simple drainage of gallbladder with a 9.6 per cent mortality. Of 36 patients without operation, three died. Ransom³ feels that in general a conservative approach to acute cholecystitis should be employed and lists indications for prompt operation in acute cholecystitis.

We agree that cholecystectomy is generally the treatment of choice for the majority of the morbid conditions of the gallbladder and routinely employ this procedure for cholelithiasis as well as acute and chronic cholecystitis. With the increasing population of the older age group, we feel it is well to re-emphasize the value of cholecystostomy in certain situations. In the Winchester Memorial Hospital in the four years 1955 to 1958 inclusive there have been 332 cholecystectomies and only 15 cholecystostomies for a ratio of 22 to 1 in favor of removal of gallbladder.

Case 1—82 year old white male with 4-5 year history of fatty food intolerance. Twenty-four hour history of indigestion, vomiting RUQ pain, RUQ tenderness, palpable gallbladder, temperature 100, pulse 100 and WBC 21,000. The gallbladder was readily identified, white bile aspirated and a large mushy stone near the neck removed after which puru-

lent material and then clear bile was encountered.

Case 2—68 year old white female with intermittent colic for 20 years. Fatty food intolerance for one week with pain, fever and anorexia. Temperature 102.6, pulse 92, general abdominal tenderness most marked in RUQ with a mass 5 c.m. below the costal margin. A red injected gallbladder with foul pus, many stones and a positive E coli culture encountered at surgery.

Case 3—59 year old white female who five months previously was hospitalized because of arteriosclerotic heart disease, first degree heart block, coronary insufficiency and pulmonary emphysema. On digitalis. Recurrent attacks of gallbladder colic for 16 years with a severe attack 24 hours prior to admission. A palpable gallbladder was opened, white bile and stones encountered. Following removal of the stone impacting the cystic duct, yellow bile noted.

Case 4—70 year old white female who had a cerebral vascular accident six years previously, a coronary thrombosis three years previously and been admitted five months before surgery because of RUQ pain, nausea and vomiting. At that time her blood pressure was 250-110, x-ray showed a solitary gallstone and conservative therapy advised. On 10-15-58, because of three day history of right upper abdominal pain her physician diagnosed gallbladder colic and referred her to the hospital. X-ray showed evidence of pulmonary infarct and because of considerable hemoptysis we made this diagnosis, treated her with anticoagulants and she improved. Because of the presence of the gallstone, it was removed under local uneventfully on her eighth hospital day.

Case 5—44 year old white female with an acute attack of syncope and mild right upper quadrant pain. She had been treated for hypertension, B.P. 210-120. She had marked pelvic relaxation and chronic cervicitis. Cholecystogram revealed a solitary gallstone. She underwent D and C with A-P repair and total abdominal hysterectomy. At the same time through a stab wound and fundus of the gallbladder was delivered in right upper quadrant and the stone removed.

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These cases represent three types of situations that may arise which justify cholecystostomy. The first three cases typify an initial acute or recurrent acute cholecystitis in a patient troubled sufficiently to consult his family physician and be hospitalized. Each patient had findings on history or physical examination to suggest cholecystectomy would be fraught with appreciable morbidity and mortality. Case four represents an individual with cholelithiasis whose recurrent symptoms are attributed to this, but who has quite definite medical contraindications to cholecystectomy. It would seem that our patient's symptoms, in all probability, were due to the medical condition, namely a pulmonary infarct, rather than gallstones. The third type of situation is one in which multiple intra-abdominal procedures are surgically advisable. Because a solitary gallstone was relatively asymptomatic, we thought its removal, attended with no increased morbidity or mortality, seemed justified.

The technique bears review. It is by no means original, but to our knowledge has not been emphasized adequately. The patient is given preoperative medication, the intercostal nerves 6, 7, 8, 9, and 10 are injected with 5 c.c. of 1% Xylocaine, and the right upper abdomen is prepared. It is important to allow 10 minutes for the anesthesia to have effect. In most instances the gallbladder is palpable. An incision approximately 3 c.m. in length is made immediately overlying the gallbladder. The anterior rectus sheath, muscle, and the peritoneum are incised in the line of the skin incision transversely. The gallbladder is readily grasped at the fundus with an Allis forcep and delivered into the wound. Two half pursestring sutures of intestinal atraumatic catgut are placed so that the suture ends are at the left and right extent of the gallbladder exposure. The assistant ties the two on the left together and the gallbladder is then carefully opened. Cultures are obtained, the contents evacuated, and generally with a finger inside the gallbladder it is possible to remove all of the stones without peritoneal soiling. We would not hesitate to help extract stones by palpating along the exterior of the gallbladder if this is necessary. When all of the stones have been removed, a #16 straight French catheter is placed in the gallbladder, the pursestring is tied snugly, and the suture ends used to anchor the corners of the gall bladder to the posterior rectus sheath. Prior to this, a liver biopsy may be obtained if advisable. Several additional sutures are used to close the wound and the catheter is anchored to the skin. The use of

a relatively small straight catheter in our hands has afforded adequate drainage and has resulted in prompt cessation of bile leakage following its removal. Originally a larger mushroom type catheter was employed but it has been followed by prolonged drainage of bile on several occasions. Cholangiography is readily performed and may give added information with respect to the biliary tree if clinically this seems advisable.

DISCUSSION

The results in these few cases to date have been most gratifying and no patient has symptoms suggestive of residual or recurrent stones. That they would develop in a certain percentage of cases is undeniable, but because the life expectancy of patients selected for this procedure is short, we feel the chances for further biliary tract trouble are not great. The employment of local anesthesia and a small incision in a poor risk patient results in a negligible mortality and morbidity incident to cholecystostomy. Granted it is not an optimal procedure for calcareous biliary disease, it immediately affords decompression of the gallbladder, does not require general anesthesia, and does not subject the patient to pain and complications incident to a large abdominal incision.

SUMMARY

(1) An increased number of patients present themselves with acute cholecystitis, a palpable gallbladder, and medical contraindications for cholecystectomy.

(2) A technique for cholecystostomy employing local anesthesia, a small incision, and a relatively small tube seem justified in selected patients.

(3) In our hands this procedure has proved satisfactory.

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Pre-Paid Medical Care....

Edited by

RICHARD J. ACKART, M.D.

Educating the Public

Through public education programs the Blue Cross Plans of Richmond and Roanoke have been attempting to impress their subscribers about the results of abuses of pre-paid services. Messages in newspapers aimed to 600,000 members have cautioned the public to relax its pressure on doctors for unnecessary hospital admissions when care on an out-patient basis would be sufficient. Editors of key dailies have also voiced support through editorials.

The Richmond Plan points out that its hospital admission rate is 13.6 per cent above the national average of Blue Cross Plans and that the number of patient-days per 1,000 members is 20 per cent above the national level. Feeling the effects of back-to-back rate increases in 1958 and 1959 that doubled Blue Cross rates since 1957, this Plan is now taking its case directly to the public in an effort to avoid putting Blue Cross out of the reach of the working man. During the last two years the number of patient-days paid for by the Plan jumped from 1,060 to 1,249 per 1,000 members per year.

There has been a decided change in the public's attitude about going to the hospital and there have been many changes in medical practices, but perhaps the biggest threat to keeping Virginia hospital usage in line with the national average is the increase in the number of hospital beds. Supporting this conclusion is the fact that the Richmond Plan's Member hospitals have increased the total number of hospital beds by 20 per cent in the past five years. Adding to the problem is that even more hospitals still are being constructed in the area covered by the Plan.

Without infringing on the right of physicians to make use of hospital facilities as they may prescribe, the two Plans are emphasizing the distinct relationship between hospital bed usage and the rates that Blue Cross must charge. The newspaper advertisements have suggested that the Blue Cross Plans can best serve the individual if he follows his doctors recommendations as to whether he should receive care in the hospital or at home. The messages have concluded, "Because we know that you value the liberal protection that Blue Cross affords you, we ask for your cooperation in preserving the proven principles

of Blue Cross by following your physician's advice."

Both Richmond newspapers, largest dailies in the State, responded to the messages. The Richmond News Leader editorially commented that with proper use Blue Cross can be of benefit to all individuals. It urged that with proper restraint, born of self-interest, the program could be kept within the reach of almost everyone. The Editorial observed: "Unless one is to believe that Virginians are uncommonly susceptible to serious illness, the plain fact is that some Blue Cross members are going to the hospital when they have no business there. Once admitted and comfortably ensconced, these grifters stay long past the time it would take to cure any ills, real or imagined. Thus persons who are actually ill may be denied hospital beds for lack of space, while honest suckers, who don't use the hospital as a rest home, foot the bill for their selfish fellow members."

In an editorial entitled, "Too Quick To Go To Hospital?", the Richmond Times-Dispatch made a discrete inquiry about the part that doctors may have in the problem of high utilization. The writer concluded: "Blue Cross' own analysis is that 'undue pressure is being put on doctors to recommend hospitalization against their better judgment in cases where out-patient, home, or office care would suffice'. The statement fails to mention the possibility that sometimes it may be the doctors who, knowing their patients have Blue Cross coverage, encourage them to go to hospitals when they could be treated at home or in the doctors' offices. Whatever the cause, unnecessary hospitalization is undesirable for the reasons above. Blue Cross members—and their doctors—could help hold down the cost of Blue Cross coverage by declining to use hospitals simply as a convenience in cases of relatively minor illness."

Now Blue Cross Members are being asked to take their part of the responsibility for high utilization by following their physicians' advice regarding admission or extended stays for convalescence. The Plans do not accept the idea that a few doctors are causing the problem. They would stand out quite conspicuously in Blue Cross records. If anything, it has been "a little rationalization in judgment" by a great number of doctors that has pushed the Vir-

ginia Plans' patient-days considerably above the national average. The doctor's decision to admit a patient may be for any one of a dozen reasons that supports his initial examination, and, with extra beds available, the odds proportionately favor admission to the hospital instead of ambulatory care. Without available beds, there would be no decision to make and the care would be rendered on an out-patient basis; when there is no waiting for beds, borderline cases make up an increasing portion of the hospitals' patient-load.

Blue Cross in Virginia wants its members to real-

ize that it is they who are paying the cost of necessary and not-so-necessary services alike. The medical profession in Virginia is well aware of the ever-present threat of government in medicine; it would be repetitious to point out that when the average family budget can no longer stand the cost of Blue Cross-Blue Shield, ambitious politicians will attempt to fill the vacuum with federal schemes. But the Plans firmly believe that anything they can do to help correct misunderstandings which may be dragging the country toward socialized medicine is worth spotlighting for everyone's consideration.

New Treatment for Esophageal Lye Burns

The serious consequences of swallowing lye can be prevented by the use of antibiotics and artificial hormones, according to two Delaware doctors. In fact, the treatment—combining tetracycline and prednisone—produced “uniformly good” results in 13 children who had swallowed lye-containing substances.

Lye, which burns the esophagus when swallowed, is the fifth leading cause of poisoning among those under 19 years of age, Drs. Charles L. Miller and Robert O. Y. Warren, Wilmington, said in the July 25th Journal of the American Medical Association.

After the lye is swallowed, the esophagus becomes swollen and inflamed, which interferes with swallowing. This is followed by a period of normal swallowing until scar tissue gradually forms and obstructs the esophagus. Untreated, the esophagus completely closes and the patient dies of dehydration and starvation.

Until recently treatment consisted of surgery or the mechanical opening of the esophagus. Now the

daily oral doses of antibiotics and steroids help heal the burns and prevent the development of scar tissue. The antibiotic is used to prevent infection in the burned area. Prednisone, a derivative of cortisone, speeds healing through its effect on the glandular system, which controls the body's reaction to such stresses as burns.

Feeding tubes were used for the first three days. After that the children ate soft diets for three weeks before returning to general diets.

None of the 13 children showed any narrowing of the esophagus after treatment. Follow-ups three months to three and a half years later also showed no subsequent narrowing.

In conclusion, the doctors said, “Despite the fact that the more severe consequences of lye ingestion can be averted with proper and early treatment in most cases, it is still a serious problem. The real answer lies in the field of prevention, especially through dissemination to the public of information about the dangers inherent in leaving poisonous substances within the reach of children.”

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Diphtheria

Diphtheria is a disease that has caused great concern throughout the years and still causes concern because of the complacency that exists with reduction in the annual number of cases brought about by use of preventive vaccine. The Public Health Service considers it so important to follow diphtheria that it maintains a Surveillance Unit to review the cases that are reported in the United States.

It is interesting to have a look at the morbidity and mortality of diphtheria in Virginia during the past 10 years.

DIPHtheria IN VIRGINIA, NUMBERS OF REPORTED CASES
AND DEATHS, 1949-1958

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Cases	220	192	194	166	97	36	45	32	22	33
Deaths	12	11	8	11	4	5	4	1	4	4

The general pattern of prevalence follows the seasonal variation that is expected with periods of highest incidence during the fall and winter months. Through the ten years listed above several counties and three cities have reported the greatest number of cases. The fact that a county is essentially rural or that it has a large Negro population contributes to a higher incidence.

An analysis of the cases reported in 1958 shows the following:

Patients on whom a Schick test was done and found positive	1
Patients who had received no immunization	14
Patients who had been given 1 dose of DPT	4
Patients who had had 2 doses of DPT	2
Patients who had taken 3 doses of DPT but no booster	4
Patients who had taken the series of 3 DPT's and a booster	2
(The diagnosis of one of these was confirmed by laboratory examination and the other was diagnosed clinically only)	
Patients with no information on immunization status	6
Total	33

Four deaths were reported in the 33 cases. One of these was a white male 67 years of age and another a white female 82 years old. Both were housed in an institution and there was no laboratory confirmation in either case.

It has been thoroughly established that the remarkable reduction in diphtheria morbidity that has occurred throughout the country, together with the resulting reduction in mortality, has been brought about by the widespread use of agents which produce active immunization. Because diphtheria is primarily a disease of infancy and childhood, protection should be established early in life.

When the level of antibodies circulating in the blood stream falls below the protective level, the individual needs an additional injection and it is essential to maintain immunity by giving booster doses at regular intervals. This is particularly true when the primary immunization has been established in infancy when the first booster should be given no longer than 18 months following the initial series of three injections. After this the circulating antibody level falls more slowly and a second booster is not given until the child enters school. While the usual interval suggested before the first booster is usually one year, it may be given as early as six months after the primary series with excellent response. An individual is capable of responding to an injection for many years. In fact, there is never need to repeat the primary series because response follows a booster dose whenever it is given. Without the booster, however, the level of immunity can be so low that the individual can contract the disease when exposed.

Because older children and adults reacted so severely to doses of toxoid, its use was practically discontinued after a person reached the age of 10 years. Recent reviews and reports have presented the fact that adults have become increasingly susceptible to diphtheria. This has been shown by both Schick test surveys and by outbreaks of diphtheria involving a high proportion of adults. It calls for the protection of older age groups. Studies have shown that greatly diluted toxoid, permitting very small amounts in a dose, may be used without fear of producing reactions. The Armed Forces of the United States have been using this method for a number of years to protect its young adults against diphtheria and neither systemic nor local reactions have been observed. A booster dose, using this material, may be given at 10 years of age, again at 15

years, and thereafter about every 10 years to maintain immunity through life. This ultrarefined and more highly diluted toxoid may be obtained commercially.

It is fortunate that immunizations against diphtheria, pertussis, and tetanus can be carried out at the same time through use of diphtheria and tetanus toxoids and pertussis vaccine dispensed in a single vial. Immunization with DPT is safe, even for allergic children. For the latter, the usual methods of injection may be used during the first few years of life but highly sensitive older children should be given small, frequent intramuscular or intradermal injections. After 10 years of age only DT with the ultrarefined and more highly diluted diphtheria toxoid should be used. It is no longer important to have the P, pertussis vaccine, at this period of life.

A positive Schick test does not always indicate lack of immunity to diphtheria nor does a negative reaction always indicate that the individual has developed sufficient immunity to protect him against the disease. The test has value in the hands of physicians skilled in its use but, generally speaking, it is difficult to administer on a large scale and difficult to interpret. It is rarely used now. A history of active immunization with booster doses given at scheduled intervals is of greater value. Finding and treating diphtheria carriers with antibiotics is important in preventing spread of the disease. Contacts of clinical cases should have throat and nasopharyngeal cultures taken for examination.

The schedule for routine immunization with DPT is, in the case of infants and children, based on the suggestion of the Committee on the Control of Infectious Diseases of the American Academy of Pediatrics. Included in this schedule are immunizations against smallpox and poliomyelitis:

1 to 2 months of age	0.5 cc DPT
2 to 3 months of age	0.5 cc DPT and 1.0 cc Poliomyelitis vaccine
3 to 4 months of age	0.5 cc DPT and Smallpox vaccination
10 to 12 months of age	1.0 cc Poliomyelitis vaccine
16 to 18 months of age	0.5 cc DPT

22 to 24 months of age	1.0 cc Poliomyelitis vaccine
5 to 6 years of age	0.5 cc DPT
10 to 11 years of age	0.5 cc DT, (ultrarefined and D diluted for small dose)
15 to 16 years of age	0.5 cc DT (ultrarefined and D diluted for small dose)
Each 10 years thereafter	0.5 cc DT (ultrarefined and D diluted for small dose)

The very fact that the morbidity of diphtheria has been lowered so greatly increases the susceptibility of the population because lessened contact of individuals with diphtheria organisms prevents the stimulation necessary in the development of immunity. The picture of a highly susceptible population with the presence of virulent bacteria of diphtheria in its midst is not pleasing or happy. This situation emphasizes the need to establish and maintain active immunization in a broad segment of our people through the use of toxoid injections. It is the duty of every physician to know the immunization status of every one of his patients, be he pediatrician, general practitioner, or clinic physician and be the patient an infant of two months, a child, an adolescent, a juvenile, or an adult. Until this is done and every individual is actively immunized and his immunity is stimulated at regular intervals, we can expect to encounter diphtheria. We should remember that wherever we meet diphtheria we find deaths from this infection. Let us prevent morbidity and mortality from diphtheria!

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	July 1959	July 1958	Jan.- July 1959	Jan.- July 1958
Brucellosis	2	2	16	13
Diphtheria	0	0	6	13
Hepatitis	43	24	250	163
Measles	622	1289	14294	20701
Meningococcal Infections	5	9	61	55
Meningitis (Other)	21	15	140	118
Poliomyelitis	24	16	40	27
Rabies (In Animals)	7	11	106	200
Rocky Mountain Spotted Fever	14	8	25	18
Streptococcal Infections	345	281	292	4680
Tularemia	2	4	11	22
Typhoid Fever	0	2	11	16

PATRICIA R. DENTON, M.D.

The Mobile Psychiatric Clinic of the Department of Mental Hygiene and Hospitals

There is no single cause of juvenile delinquencies; there is no simple "cure". Little is known of the ways of prevention. Those who work with these children work in an eclectic confusion, where problems of the present take precedence over basic research and long-range planning efforts to integrate the approaches of several disciplines into one functioning whole, aimed at the efficient handling of the problems. There is so little known of the ways in which the tangle of interpersonal relationships involving the child and his parents (or lack of parents) family, peers and community, result in the court appearance that officially confers the appellation of Juvenile Delinquent.

In 1954 the Legislature of the State of Virginia established the Mobile Psychiatric Clinic to provide the services of a psychiatric out-patient clinic to the industrial training schools and the Child Care Bureau of the Youth Services Division of the State Department of Welfare and Institutions. This Statute also made provisions for the training of personnel, and research, in the field of juvenile delinquency. At any given time there are approximately 1,300 youngsters in the program of Youth Services Division, with a yearly admittance rate of approximately 1,200. These children range in age from 8 to 21, with the majority being between 13-17. They have been committed to the State from the local juvenile courts and are housed in the four industrial training schools of Beaumont School for Boys (white), Bon Air School for Girls (white), Hanover School for Boys (colored), and Janie Porter Barrett School for Girls (colored), and the foster homes maintained by the Child Care Bureau in the Richmond and Roanoke areas. Intake Study Units are located in three of the schools, while the Intake Study Unit for white boys is in Chesterfield County.

The staff of the Mobile Psychiatric Clinic at first consisted of one half-time psychiatrist and one full-

time psychologist. This has been augmented over the past four years to include, at present, 1 psychiatrist, 3 psychologists, and 2 psychiatric social workers, all full-time. The headquarters of the Clinic is at 601 Spring Street in Richmond; periodic visits are made by staff personnel to the training schools.

With the increase in staff, we have been able to expand services. A new intake procedure has been in operation since April 1, 1959. Psychological examinations are now done on all children coming into the program. By means of group testing and reviewing of individual case histories, we are able to screen through the average of 100 children a month, obtaining intellectual quotients, reading levels, and an approximate idea of the amount of emotional disturbance present which might warrant further evaluation, therapy, or counseling. Approximately 25 children a week are group-tested for psychological evaluation, and 15 are seen for psychiatric diagnosis. More extensive psychological examinations are done when indicated. Clinic recommendations are given to the Youth Services Division for use in planning rehabilitation programs for the children. Cases may also be referred by the workers of the Intake Division, and from the training schools.

One long-thought-of therapy program was put into effect in March, 1959. Group therapy sessions were instituted in the training schools. There are now two groups in each of the girls' schools, and one group in each of the boys' schools. However, when it is realized that each group can have only 12 youngsters, and there are approximately 800 children in the training schools, the need for expanding this service can be readily seen. With any future increase in staff, the first aim will be to increase the group therapy program.

The Clinic staff carries 15 youngsters in weekly individual psychotherapy sessions, and approximately 100 are seen once or twice a month for counseling and evaluation of progress. Each school is visited once a month by the psychiatrist and twice a month by a psychiatric social worker.

The second field of clinic function is training. The psychiatric social workers act as consultants for the case work staffs of the training schools as well as

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

receiving referrals for individual evaluation and counseling. Discussion groups have been set up from time to time with the staffs of the schools, and the personnel of the Child Care Bureau, to discuss the philosophy and theories of the psychiatric team approach, and individual cases. We, in common with others working in similar capacity throughout the country, have realized that the very best utilization of services is in aiding the adults working with these children to develop a deeper and clearer understanding of their charges, the reasons behind their activities, and what constitutes a practical and efficient approach to dealing with the problems.

On a more academic level, the clinic has served as a training unit for students from the Psychology Department of the Richmond Professional Institute. We hope, in the future, to be considered as a placement agency for students of the School of Social Work of the same Institute.

The research program has had to fight for its very existence against the almost overwhelming load of service needs. There are now projects under way involving classification of delinquency, and in evaluating reading achievement tests. The first research paper from the clinic, by Walter Lippert, Psycholo-

gist, is entitled "The Approach Gradient as Shown by the Lie Score on the MMPI (Minnesota Multiphasic Personality Inventory)". The practical application of this work was to show that the use of such personality tests as the MMPI are seriously in doubt when used to judge the readiness of a youngster to be released home.

Research is desperately needed in the field of juvenile delinquency. Sociological and psychological research, as well as basic psychiatric and medical research, is needed to throw more light on the causes, treatment, and methods of prevention, of delinquency. We are now, at best, fighting a "holding action" type of battle against the problem.

The term "Juvenile Delinquency" blankets a complexity of problems involving social and psychological disturbances. Punitive attitudes must give way to treatment. Jails and training schools must become therapeutic facilities before any real changes will be seen in the present picture of delinquency. This can be done, for pilot studies and demonstration projects have shown it to be so, in actual practice. But only with widespread interest and genuine effort on the part of all, will the therapeutic approach to delinquency become the "modus operandi".

Inadequate Diets

Apathy is one of the major causes of inadequate diets. L. A. Maynard, Ph.D., Ithaca, pointed out that while sufficient food supplies are available, surveys continue to show that a substantial number of individuals fail to consume diets which meet the recommended dietary allowances.

"Such surveys," he reported in the May 23rd Journal of the American Medical Association, "indicate a widespread lack of appreciation of the importance of an adequate diet and a lack of knowledge of how to select it."

In his report, Dr. Maynard said a great variety of food supplies are available and that an adequate diet can be obtained by selecting foods from each of the four basic food groups. These include:

—The milk group which includes cheese and ice cream. He recommends that children have three to four cups of milk daily; teen-agers, four or more cups; adults, two or more, and expectant mothers, four or more cups.

—The meat group including two or more servings of beef, veal, pork, lamb, poultry, fish, or eggs.

Dried beans, peas, and nuts may be used as alternates.

—The vegetable-fruit group from which four or more daily servings should be selected. These servings should include a dark green or deep yellow vegetable at least every other day, citrus fruit or other fruits containing vitamin C, and vegetables including potatoes.

—The bread-cereals group from which four or more daily servings are suggested. This group includes whole grain, enriched or restored cereal, and bread.

Dr. Maynard added that a good diet can be rounded out by more of the same foods or others, such as table fats, cereal products, and sugar, to provide the additional calories and nutrients needed.

"The food supply of the United States is so large and provides such rich and varied sources of the nutrients needed that it is readily possible for everyone to have an adequate diet from foods available to him."

The Medical Society of Virginia . . .

REPORTS FOR 1959 ANNUAL MEETING

Executive Secretary-Treasurer

Another year of service to the profession has been written into history and the reports on the following pages will tell, to a great degree, how well that service was provided. It should be remembered, however, that reports cannot, in themselves, tell the whole story—of such things as the countless letters, phone calls and telegrams used to shore up the defenses of an embattled profession striving to stave off a determined attack by proponents of more government medicine. Then there were the long hours spent by a small committee working diligently to protect both profession and public against abuse of existing governmental health care programs and major medical programs underwritten by the insurance industry.

The Medical Society of Virginia has, through the years, been blessed with capable and responsible officers and their dedicated efforts are reflected in the sound position which the Society and, indeed, the profession itself, occupies in Virginia.

Last year we reported that six more State Societies had increased their dues and that the national average was slightly over \$55.00. The past twelve months have found still others increasing their dues and the national average is now \$85.00. This leaves Tennessee and Virginia at the bottom of the pile with dues of \$25.00, and the auditor's report, to be published in the December issue of the Monthly, will more than likely show that The Medical Society of Virginia continues to operate on a sound financial platform.

Those responsible for the general administration and supervision of the Society's affairs have always tried to operate as economically and efficiently as possible. Although no two Medical Societies operate alike, it should perhaps be pointed out that some go much further than others. For example, some Societies spend as much as \$35,000.00 on legislative activities, and others produce public relations movies and television programs of professional quality which run into the thousands of dollars. The Medical Society of Virginia, on the other hand, has always operated in a very conservative manner and has been very careful to engage only in activities which provide service. The job has been done without excessive fanfare or window-dressing.

The question, then, is just how far does the membership propose for the Society to go. Are current policies and programs satisfactory, or should the Society be doing more? Perhaps there are additional services which should be provided and, if so, the office staff would like to know about them. Your staff takes considerable pride in holding operating costs to a minimum, but it wants to be sure that the membership is in accord with present policies and programs. The State office has but one purpose—to serve the membership.

One again we shall attempt to report briefly on the activities which may be considered of more than passing importance.

COUNCIL: The Interim Session of Council was held at Society Headquarters on March 5, 1959, and complete minutes were published in the May issue of the Monthly.

COMMITTEES: Forty-one Committees (10 Standing and 31 Special) were active during the year. While Committee meetings were held pretty much over the State, twenty-four were held at Society Headquarters. With such excellent facilities available, it is hoped that more Committees will utilize them.

COMPONENT SOCIETIES: Twelve of the forty-seven component societies were visited during the year. This is not quite up to our usual standard and every effort will be made to improve on this during the next twelve months. Your staff realizes full well that it is not always possible for members to visit the Headquarters building or to attend the various meetings and conferences. Thus, if members cannot come to the Society, the Society must be carried to them.

MEMBERSHIP: It is becoming quite clear that the continuing growth of Virginia's population will result in an annual increase of the Society's membership. 1958-59 has been no exception and another substantial gain has been recorded. The membership story follows in detail:

Members reported August 31, 1958	2,801
New members	157
Deaths	43
Resignations	15
Dropped	25
	83
Increase	74
Total membership as of August 31, 1959	2,875

AMERICAN MEDICAL ASSOCIATION MEMBERSHIP: The Society can again report an American Medical Association membership in excess of 2,000. This means, of course, that we shall continue to be represented by three Delegates in the House of Delegates of the American Medical Association.

MEETINGS AND CONFERENCES: Once again, the State office was represented at both the Annual and Interim sessions of the American Medical Association. In addition, representatives attended the American Medical Association Public Relations Institute, Southeastern State Journal Conference, Professional Relations Conference of Blue Shield Plans, a meeting of Southeastern State Executive Secretaries and the annual meeting of the Virginia Academy of General Practice. The Executive Secretary also attended four meetings of the American Medical Association Public Relations Advisory Committee, the annual meeting of the Virginia Medical Assistants Association and the Leadership Conference of the Virginia Education Association.

Staff members gave considerable time to the work of allied and community organizations, including committee assignments with the Red Cross, the Virginia Council on

Health and Medical Care and a special Richmond Recreation Committee.

The Staff worked closely with the Public Relations Committee in arranging the special Senior Day Program which was held in Charlottesville at the Hotel Monticello.

HEADQUARTERS BUILDING: The new headquarters has proven entirely functional and the Society can well be proud of its new home. The cost of maintaining building and grounds has been a bit more than anticipated, but this is perhaps expected during the first year or two. Experience will undoubtedly enable us to hold such costs at a proper level.

Five medical organizations held monthly meetings in the headquarters building during the year. The building was the scene of the Annual Workshop sponsored by the Woman's Auxiliary to The Medical Society of Virginia.

VIRGINIA COUNCIL ON HEALTH AND MEDICAL CARE: Thirty-one requests for placement assistance were received during the year. All requests were referred to the Virginia Council on Health and Medical Care and we are advised that at least one of the physicians concerned has been located in a Virginia community.

The Medical Society of Virginia is also cooperating with the Council in its efforts to recruit badly needed health personnel. A great deal of material for recruiting purposes has been furnished the Council and a number of Society members are serving on its various committees.

PERSONNEL: There have been no changes in Staff personnel during the year, the number of full time employees remaining at four. The practice of utilizing part-time assistance during peak-load periods continues to prove satisfactory. The membership will be interested to learn that Miss Tobin, the most efficient secretary and receptionist, was married during July.

The Executive Secretary is indebted to Miss Watkins, Miss Tobin and Mr. Smith for the loyalty and cooperation they have displayed during the year. Perhaps it should be mentioned that no State Society has fewer employees, and this in itself speaks well for these three capable and talented persons.

Your Staff sincerely feels that a visit to the new headquarters building is a "must" for every member. When traveling in the Richmond area why not take a few minutes to drop by, see the building, and let the Staff know how it can better serve you? There is unlimited parking and we know you will find the visit well worthwhile.

ROBERT I. HOWARD
Executive Secretary

AMA Delegates

The House of Delegates of the American Medical Association met in Atlantic City from June 8-12 and, during that time, considered some of the most important matters ever brought to its attention. This report will, understandably, touch only a few of the most important.

The report of the Commission on Medical Care Plans was given careful consideration and three of the Commission's recommendations, relating to miscellaneous and unclassified plans were reworded as follows:

B-4. "In an effort to decrease, or at least to prevent an increase, in the over-all cost of health care, study should be given to the removal of the requirements

of hospital admission as the only condition under which payment of certain benefits will be made."

B-6. "Medical care plans should be encouraged to increase their efforts to provide health education and information concerning the coverage of their subscribers."

B-16. "The American Medical Association believes that free choice of physician is the right of every individual and one which he should be free to exercise as he chooses. Each individual should be accorded the privilege to select and change his physician at will or to select his preferred system of medical care and the American Medical Association vigorously supports the right of the individual to choose between these alternatives."

The House also requested that every effort be made to stress the far-reaching significance of recommendation A-7 which states, "'Free choice of Physician' is an important factor in the provision of good medical care. In order that the principle of 'free choice of physician' be maintained and be fully implemented, the medical profession should discharge more vigorously its self-imposed responsibility for assuring the competency of physicians' services and their provision at a cost which people can afford."

A special report of the Judicial Council on the subject of osteopathy was considered and the House adopted the following policy statement concerning interprofessional relations: "(A) All voluntary professional associations between doctors of medicine and those who practice a system of healing not based on scientific principles are unethical. (B) Enactment of medical practice acts requiring all who practice as physicians and surgeons to meet the same qualifications, take the same examinations and graduate from schools approved by the same agency should be encouraged by the constituent associations. (C) It shall not be considered contrary to the Principles of Medical Ethics for doctors of medicine to teach students in an osteopathic college which is in the process of being converted into an approved medical school under the supervision of the A.M.A. Council on Medical Education and Hospitals. (D) A liaison committee be appointed by the Board of Trustees of the American Medical Association to meet with representatives of the American Osteopathic Association, if mutually agreeable, to consider problems of common concern including inter-professional relationships on a national level."

Social Security coverage for physicians was the subject of five resolutions. Four of these were rejected. The one which was adopted reaffirmed opposition to the compulsory inclusion of physicians. In taking this action, the House expressed serious concern over the effects that a change of policy might have on the Association's entire legislative program, particularly with respect to the Forand Bill.

The House approved and commended the final report of the Committee on Preparation for General Practice, which proposes a new two-year internship program for medical school graduates planning to become family physicians. The suggested program would include a basic minimum of 18 months hospital training in the diagnostic, therapeutic, psychiatric, preventive and rehabilitative aspects of medicine and pediatrics in a very broad sense, including care of the newborn. A physician then could

elect to spend the remaining six months for additional training in other segments of the program.

In dealing with a wide variety of other subjects, the House also:

Urged all physicians to participate more fully in community activities;

Expressed thanks to the Committee on Amphetamines and Athletics;

Approved inclusion of Today's Health as a benefit of dues paying membership and urged members to make it available to their patients;

Requested that State Medical Societies, where advisable, initiate legislative efforts to eliminate cancer quackery;

Endorse the purposes outlined in the initial report of the Medical Disciplinary Committee;

Urged every AMA Member to contribute to the American Medical Education Foundation and,

Agreed to hold the 1962 Annual Meeting in Chicago.

Your Delegates would like to take this opportunity to urge all members to read the detailed actions of the House as reported in the AMA Journal and the AMA News. Your membership benefits have never been greater and every physician should take advantage of them.

VINCENT W. ARCHER, MD..

W. LINWOOD BALL, M.D.

ALLEN BARKER, M.D.

Editorial Board

The Virginia Medical Monthly continues to increase in size and circulation and we hope the quality of the professional material keeps pace with the over-all improvement. The trend in recent years toward round table discussions and symposia instead of formal presentations has resulted in fewer articles being submitted to the Journal. We welcome all worth-while articles and urge the members to forward them to us.

At the spring meeting of the Virginia Surgical Society, the Virginia Medical Monthly was designated the official organ of this organization. It is hoped that other specialty groups will take similar action. The Journal did not exceed the budget during the past year, although the exact amount of our overage will not be available until October 1.

HARRY J. WARTHEN, M.D., *Chairman*

Judicial

Several changes in the Constitution and By-Laws have been proposed to the Judicial Committee with the request that they be prepared in proper form and published in the Virginia Medical Monthly for information and to comply with Article XIII of the Constitution. The Committee makes no recommendations as to the wisdom or desirability of the proposed changes, matters of policy being for the House Delegates.

The following Amendment to the Constitution has been directed by the Council and House of Delegates:

Amend the second sentence of *Article VI* to read as follows:

"The Council shall consist of one member from each Congressional District of the State, together with the President, President-Elect, First Vice-President, Immediate Past President, and Delegates of the Society to the House of Delegates of the American Medical Association."

(The purpose of this Amendment is to grant full membership in the Council to the Society's Delegates to the House of Delegates of the American Medical Association.)

One member of the Committee wishes to be recorded as opposed to the provisions of this Amendment.

The following Amendments to the By-Laws have been proposed:

ARTICLE I

Section 1—Amend the first paragraph of Section 1 to read as follows:

"Member of the Society are classified as active, associate and courtesy."

ARTICLE I

Section 3—Amend Section 3 to read as follows:

"The privilege of voting, holding office, and serving on standing committees is limited to active membership. In all other respects the status of the active, associate and courtesy members is the same."

ARTICLE I

Section 4—Amend Section 4 to read as follows:

"For long, faithful or distinguished service, the House of Delegates, upon recommendation of the Membership Committee, may elect annually two resident members and one non-resident physician to honorary active or honorary associate membership."

(The purposes of the three Amendments to Article I are to establish three classifications of membership, to clarify the status of courtesy members, and to clarify honorary active and honorary associate membership.)

ARTICLE II

Section 3—Amend the first sentence of Section 3 to read as follows:

"Honorary members shall be exempted from the payment of annual dues, and the President, in his discretion, may extend this exemption to other deserving members."

(The purpose of this Amendment is to clarify the dues exemption status of those members elected to honorary active or honorary associate membership.)

ARTICLE VIII

Section 1—Amend the first sentence to read as follows:

"The Council shall consist of the President, President-Elect, First Vice-President, the Immediate Past President, one member from each Congressional District, and Delegates of the Society to the House of Delegates of the American Medical Association."

(The purpose of this Amendment is to grant membership in the Council to the Society's Delegates to the House of Delegates of the American Medical Association. As members of the Council, the Delegates also become members of the House of Delegates of the Medical Society of Virginia.)

J. MORRISON HUTCHESON, M.D., *Chairman*

W. CALLIER SALLEY, M.D.

JAMES P. KING, M.D.

Ethics

No problems of any great magnitude were referred to the Committee during the year, and as a result, no formal meetings were held.

The Chairman did, however, consult individually with members of the Committee on several minor matters. These were cleared without any difficulty.

Your Committee notes that the 1958 report of the Committee on Principles and Policies was reprinted in the July, 1959, issue of the Virginia Medical Monthly, and again urges the membership to give it careful consideration. During these days when the free practice of medicine is at the crossroads, it is more than ever necessary that the profession review its obligations and responsibilities and take a firm stand on such matters.

RUSSELL G. McALLISTER, M.D., *Chairman*
ROBERT P. TRICE, M.D.
HAROLD W. MILLER, M.D.

Membership

The Committee on Membership of The Medical Society of Virginia has had no matters referred to it during the year. As a consequence, no meetings have been held.

The membership story continues to be one of steady growth and the Committee extends a cordial welcome to the many new members who joined us during the year. Names of these new members have been published in the Virginia Medical Monthly.

Your Committee considers it a privilege to present the name of Dr. Walter P. Adams, our retiring President, for honorary active membership in The Medical Society of Virginia. Dr. Adams has made a distinguished contribution to the Society and his profession and we take this opportunity to express our gratitude for a job well done.

CECIL B. DIXON, M.D., *Chairman*
WILLIAM GROSSMAN, M.D.
WILLIAM W. OLD, III, M.D.

Public Relations

The Public Relations Committee has long subscribed to the theory that there are as many different types of public relations as there are fields of endeavor. Certainly, what is good public relations for one particular group might well be the poorest kind of public relations for another. For that reason, your Committee has been very careful to sponsor only activities which provide or stress service—activities in keeping with the pride and dignity of the profession.

A special "Senior Day" program was presented in Charlottesville for senior medical students at the University of Virginia. This was the first such program presented at the University and it attracted a combined turn-out of one hundred students and their wives. Problems facing the profession and responsibilities of the physician to his patients and community were subjects discussed. Your Committee hopes that these programs can be presented annually.

Once again, the Committee worked with allied organizations whenever possible. A good example is the cooperation given to the Virginia Farm Bureau Federation during its campaign to provide Federation members with personal health record cards. Ten thousand cards were furnished the Federation and an additional supply has been printed.

At the kind request of the A. H. Robins Company, your

Committee prepared a series of spot announcements which were used between innings of games played by the Richmond Virginians of the International League. The announcements were used all summer and the Society has received many requests for material as a result. Subjects covered by the announcements included the family physician, cost of medical care, night and emergency call systems, family health records, etc.

Perhaps the most important project sponsored by the Committee was its campaign against food faddism. Here again, the Committee worked closely with other groups—namely the Virginia Bakers Council and the Richmond Dairy Council. A film on the subject entitled "The Medicine Man" was shown hundreds of times over the State and the end is not yet in sight. Dr. John Wyatt Davis, Jr., Vice-Chairman of your Committee, participated on the program of the A.M.A. Public Relations Institute in Chicago and discussed this particular campaign.

Once again, your Committee carried on an extensive radio program. Twenty-one stations have cooperated during the year and a total of 936 broadcasts have been presented. It might be well to mention also that at least one television station is now using special 20-second animated announcements furnished by the Committee.

Although the Committee was not directly concerned, it again wishes to take note of the 4-H Club Health Awards presented by the Sub-Committee on Rural Health. Letters of gratitude from the recipients bear out our contention that the presentation of these awards represents public relations at its best.

Your Chairman is disappointed that so very few Virginians attend the A.M.A. Public Relations Institute. It would certainly seem that every component Society should strive to send at least one representative every few years.

Perhaps the best way to close this report is to remind our members that all good things begin at home and public relations is no exception. Remember—the best medical public relations is practiced in the physician's office.

MASON C. ANDREWS, M.D., *Chairman*
JOHN WYATT DAVIS, JR., *Vice-Chairman*
WILLIAM S. TERRY, M.D.
THOMAS E. HAGGERTY, M.D.
WILLIAM H. BARNEY, M.D.
THOMAS W. MURRELL, JR., M.D.

Mediation

At the time this report is rendered (July 20) there have been no meetings of the Committee. All of the matters which might have been referred to the Committee were settled at the local level, which seems to be a very healthy sign. The Committee therefore has no real report to make. Several matters were referred to the State Society but these in turn were referred locally and were settled in-so-far as we know.

VINCENT W. ARCHER, M.D., *Chairman*

House

The House Committee regrets that the budget which allocated \$3,400.00 for maintenance and \$100.00 for repairs of the new headquarters building has been slightly exceeded. This was due to the fact that we had no guide to go by in setting up our first budget.

Our costs during the past year have been as follows:

Insurance	\$324.85
Yard maintenance	245.46
Water	56.65
Electricity	822.26
Taxes	992.73
Janitor	967.00
Supplies, etc.	309.79
Fuel oil	593.57
Windsor Farms Service	50.00
	<hr/>
	\$4,362.31
Contribution of General Practice to Maintenance	750.00
	<hr/>
Balance	\$3,612.31

On the credit side of the ledger, we have a handsome, functional, and well situated building in which it is a pleasure to work. None of the staff regrets the move which took place on September 26, 1958. All members of The Medical Society of Virginia, who have not done so, are urged to visit the Headquarters building.

FLETCHER J. WRIGHT, JR., M.D.

DONALD S. DANIEL, M.D.

HARRY J. WARTHEN, M.D., *Chairman*

Preventive Medicine

Your Committee has, during the year, observed with great interest efforts being made in all parts of the country to solve the problem of getting school children vaccinated against poliomyelitis. With the firm belief that some vigorous action must be taken to solve this same problem in Virginia, your Committee recommends that the House of Delegates approve the following proposed bill and take such steps as may be necessary to secure its enactment by the General Assembly.

A BILL TO BE ENTITLED
"AN ACT TO AMEND GENERAL STATUTES OF VIRGINIA, CHAPTER . . . TO REQUIRE THE VACCINATION OF YOUNG CHILDREN AGAINST POLIOMYELITIS (INFANTILE PARALYSIS)"

The General Assembly of Virginia do enact:

Sec. . . . Chapter . . . of the General Statutes of Virginia is hereby amended by adding a new article thereto to read as follows:

Article . . . Poliomyelitis (Infantile Paralysis)

Sec. . . . Vaccination against Poliomyelitis (Infantile Paralysis)

1. (a) The parent, parents, guardian or any person in *loco parentis* of any child in Virginia between the ages of two months and six years shall have administered to such child an adequately immunizing dose of prophylactic agent against poliomyelitis (infantile paralysis) which meets the standards approved by the United States Public Health Service for such biographical products, and which is approved by the Virginia State Board of Health.

2. The parent, parents, guardian or person in *loco parentis* of such child who has not previously received such vaccination or immunization shall present the child to a physician licensed to practice medicine in Virginia and request such physician to administer the necessary

vaccination or immunization against poliomyelitis (infantile paralysis) as above provided.

3. If the said parent, parents, guardian or person in *loco parentis* of such child are unable to pay for the services of a private physician, or for such prophylactic poliomyelitis agent, such parent, parents, guardian or person in *loco parentis* shall present such child to the county physician of the county in which the child resides, or to the physician health director serving such county, who shall then administer such prophylactic agent without charge.

4. The physician who administers such prophylactic agent against poliomyelitis (infantile paralysis) to such children shall give a certificate of such vaccination or immunization to the parent, guardian or persons in *loco parentis* of the child.

5. No principal or teacher shall permit any child to attend a public, private or parochial school without the certificate provided for in Subsection 4 above, or some other acceptable evidence of the child's vaccination or immunization against poliomyelitis (infantile paralysis).

6. If any physician licensed to practice medicine in Virginia certifies that such vaccination or immunization may be detrimental to a child's health, the requirements of this article shall be inapplicable until such vaccination or immunization is found no longer to be detrimental to the child's health.

7. The willful violation of this article or any part thereof shall constitute a misdemeanor and shall be punishable by same penalties prescribed for violation of law requiring vaccination against small-pox.

Sec. 2. All laws and clauses of laws in conflict with this Act are hereby repealed.

DAVID W. SCOTT, JR., M.D., *Chairman*

Walter Reed Commission

Your Committee is pleased to report that the Walter Reed Birthplace and grounds are being maintained in excellent condition by the Walter Reed Community Improvement League.

No problems arose during the year and no formal meetings of the Committee were necessary.

RAYMOND S. BROWN, M.D., *Chairman*

THOMAS E. SMITH, M.D.

H. L. SHINN, M.D.

Medical Education

The House of Delegates of The Medical Society of Virginia, during its meeting on October 14, 1958, directed your Committee to (1) study means of developing and financing a program of postgraduate education in order to meet the changing needs of the people of Virginia and their care in community hospitals and (2) study problems relating to licensing of physicians in Virginia.

Your Committee has tried very hard to carry out its assignments in a constructive manner and it sincerely believes that some very definite progress has been made.

A considerable amount of time was devoted to the difficulties encountered by community hospitals in obtaining interns and residents, and a search was begun to discover a workable solution. From reports reaching the Committee, it seemed that the plan used in Michigan might

well be the answer, or at least, a step in the right direction. Since there was a great deal to learn about the Michigan plan, it was agreed that a special sub-committee, consisting of a representative from each medical school, should visit the University of Michigan in Ann Arbor and acquaint themselves with the plan used by that Institution. This suggestion was approved by the Executive Committee of Council and Dr. Wyndham B. Blanton, Jr., and Dr. William A. Sandusky agree to make the trip. As this report is written, the Committee has not yet had an opportunity to study the findings of this sub-committee.

With reference to the licensing of physicians in Virginia, the Committee was thoroughly briefed concerning the activities, responsibilities and problems of the State Board of Medical Examiners—especially the problem posed by graduates of foreign medical schools. The Committee was particularly pleased to learn that representatives of the two medical schools had met with members of the Board and that many problems pertaining to the examinations had been discussed.

It was the consensus that an effective screening procedure for foreign graduates should be devised and the Committee recommended that the State Board of Medical Examiners consider the special examination (ESFMG) devised by Dr. Dean Smiley and approved by the American Medical Association, among others.

The Committee was also unanimous in its opinion that The Medical Society of Virginia should maintain a liaison committee between the State Board of Medical Examiners and the two medical schools.

Perhaps it would be well at this time to report that the examination now being used by the State Board of Medical Examiners is devised by the National Board. It is believed that this examination, which is becoming more and more accepted by the various states, will solve many problems which have existed in the past.

Among other matters considered by the Committee was that pertaining to the number of physicians being graduated by the nation's medical schools. There was some feeling that the increase in population should be matched by a proportionate increase of medical school graduates.

Also considered was the question of general practice residencies in Virginia's two medical schools, and the Committee was gratified to learn that two such residencies are being established at one school and a similar move being considered by the other.

Your Committee sincerely feels that it has made definite progress in its efforts to carry out the directives of the House of Delegates.

MALCOLM H. HARRIS, M.D., *Chairman*
WILLIAM F. MALONEY, M.D.
THOMAS H. HUNTER, M.D.
DONALD S. DANIEL, M.D.
MARCELLUS A. JOHNSON, III, M.D.
JOHN C. WATSON, M.D.
WAVERLY R. PAYNE, M.D.

Advisory to Woman's Auxiliary

No problems or other matters were brought to the attention of your Committee during the year and, consequently no meetings were held. The Committee is pleased

that the work of the Auxiliary has, from all indications, progressed quite smoothly.

SNOWDEN C. HALL, JR., M.D., *Chairman*
JOHN T. HUNDLEY, M.D.
LEROY SMITH, M.D.

Medicare Advisory

Four meetings of the Medicare Advisory Committee were held during the year and sixty-two special referrals were considered. This is just half the number considered last year and the reduction can undoubtedly be attributed to two factors: (1) a better understanding of the Medicare program by physicians and (2) a curtailment of certain phases of the program for budgetary reasons.

Your Committee would like once again to stress the importance of physicians using correct code numbers when completing the Medicare claim form. Physicians are also urged to always charge their usual fee. This, in most instances, will eliminate any necessity for a claim to be reviewed by the Committee and, consequently, payment will not be delayed.

Your Committee takes this opportunity to express its appreciation to those physicians who have been so patient and understanding when it was necessary that their claims be reviewed. It was not always possible for the Committee to meet as often as it would have liked.

W. LINWOOD BALL, M.D., *Chairman*
DAVID W. SCOTT, JR., M.D.
HUNTER B. FRISCHKORN, JR., M.D.
GUY W. HORSLEY, M.D.
WILLIAM E. BYRD, M.D.

Traffic Safety

The Traffic Safety Committee wishes to present the following report to the members of the House of Delegates of The Medical Society of Virginia for their study and, if approved, for transmission to the Governor's Highway Safety Committee and to the Virginia Advisory Legislative Council.

Since there were some 38,000 deaths on our highways last year and 5,000,000 injured, 20% of whom were classified as from severe to critical, and since the physician is primarily concerned in the care of these individuals he has a duty both as a physician and as a citizen to present remedies which are presently available to curtail this carnage on the highways which has now become our Number One health problem.

1. The drinking driver. Since the average individual suffers a deterioration of his driving skill with blood alcohol level of from .03 to .05% and since other studies indicate that a drinking driver is involved in from 25 to 35% of accidents and is a factor in up to 50% of the fatal accidents, we feel that .05% should be the critical level of intoxication for conviction of driving under the influence. The average individual can consume two twelve ounce bottles of 3.2 beer or two ounces of 100 proof whiskey within one hour and remain under the critical level of .05. His relative chance of being involved in an accident is represented here by the number 1. This figure was supported by a symposium on Alcohol and Road Traffic Accidents in Bloomington, Indiana, December 1958, by Drs. R. N. Harger, Henry Newman, Herman Heise, T.

A. Lumis, Leonard Goldberg, D. W. Penner and H. Ward Smith. Their conclusion as a result of the material presented at this symposium was: "It is the opinion of this Committee that a blood alcohol concentration of .05% will definitely impair the driving ability of some individuals. As the blood alcohol concentration increases a progressively higher proportion of such individuals are so affected until at blood alcohol concentrations of .10% all individuals are definitely impaired." The percentage of blood alcohol should be the criterion for determination of intoxication. Whether this degree of intoxication was reached on an ascending or descending curve is unimportant. The physician is not concerned with the type or rapidity of consumption of the alcoholic beverage or whether consumed on a full or fasting stomach. He is not concerned with whether the individual is a beginner or an experienced drinker. He is concerned only with the fact that no one should operate an automobile in our modern high speed and complex traffic patterns who has an alcohol blood level of .05% or higher. However, since practical experience has shown that those individuals with a blood level of .05 to .10% have a relative chance of being involved in an accident of 1.5 and since this level of .10 is reached in the average individual only after the consumption of four bottles of beer or four one ounce drinks of whiskey within the hour, it seems reasonable to adopt this point as the critical level for conviction of intoxication. Therefore, this Committee would suggest that this figure of .10% blood alcohol level should be the new critical figure instead of .15% which is a far too generous figure. The relative chance of being involved in an accident with a blood level of .10 to .15% is 2.5. For those at .15% or more it is 9.7. To reach the present accepted level of .15% means that the average individual will have to consume eight drinks of one ounce each of 100% whiskey in one hour or eight bottles of 3.2 beer. The determination of intoxication should be upon a chemical basis rather than upon the observation of police officers and physicians. In order to determine this blood alcohol level it is suggested that an on-the-spot breath test be carried out by an individual classified as an expert in breath testing, which means that he has been trained both in the care and use of his equipment and in the conduct of the test. This test would be used purely as a screening measure. If the suspected individual showed a level of .10% or higher then a blood specimen must be collected and sent to the State laboratory under present provisions of Law for the protection of the individual.

In order to protect the individual physician in the obtaining of this specimen it is urged that the State of Virginia adopt the implied consent law which has worked so well in New York and other states and has been upheld by many Superior Courts as legal. The basis for this law is that the driver agrees upon issuance of his operator's license to submit to a chemical test for intoxication upon proper request or to be presumed to be under the influence.

We feel that the results of these tests should be accepted as prima facie evidence and that the mandatory laws should be provided for punishment in each category. For those with a blood level of .05 or less there will be no presumption of intoxication. For those from .06 to .10

inclusive it suggested that a mild form of punishment be meted out.

This Committee has no intention of recommending what this punishment should be but as a result of its study it suggests that perhaps with a blood level of .06 to .10 inclusive a \$100 fine and a thirty day suspension of the license be carried out. For a second offense a \$100 fine, a three months' suspension of the license and eight hours in jail. For the third offense a \$100 fine, permanent revocation of the license and ten days in jail. For those with a blood level of .10 to .14 inclusive for the first offense a \$100 fine, a thirty day suspension of the license and one day in jail. For the second offense a \$100 fine, a three months' suspension of the license and ten days in jail. For the third offense a \$100 fine and permanent revocation of the license and ten days in jail. For those with a blood level of .15% or higher perhaps a \$100 fine, one day in jail and three months' suspension of the license for the first offense. For the second offense a \$100 fine, permanent revocation of the license and ten days in jail. These are merely suggestions given with the hope that they will serve to point the way toward the enactment of mandatory laws to be applied to all those who present a certain blood level of alcohol. It is also felt that if the case goes to the jury the verdict should be limited to guilty or not guilty. It is felt that the judgeship should be a full time position with an adequate salary for such a responsible duty and that dignified and proper quarters should be provided for him. If the laws concerning punishment for each category of intoxication are mandatory they would be known by all citizens and we feel would be a deterrent to drinking and driving.

In this connection a point system of giving demerits for various types of traffic offenses would be desirable. Since the Institute of Government of the University of North Carolina has done such a fine study on this subject it might be advisable to write to the Administrator to have the data sent to the Governor's Highway Safety Committee and the VALC for study.

2. These same suggestions should apply to a lesser degree to the speeding and reckless driver.

3. Three types of driving permits should be issued. Type One for private vehicles, Type Two for commercial vehicles and Type Three for passenger transport vehicles. Applicants for Class I should be re-examined every three years and for Classes II and III every year. Likewise, those in Class I should be examined every year past age 65.

4. We suggest that a study be carried out in regard to city and county medical societies setting up a medical referral committee staffed by a rotating group of physicians with consultants available in Psychology, Ophthalmology, Psychiatry, Otology and other surgical specialties. This group would be particularly valuable in the examination of repeat traffic offenders referred by the traffic court. They would also be available for examination of individuals referred by other physicians or the police.

5. All physicians who have patients with convulsive disorders, psychiatric disturbances, uncorrectable visual defects or diabetics taking insulin should report the names to the State Board of Health who, in turn, would report them to the State Licensing Bureau.

6. A provision should be made so that the driving permit should have attached to it a separate card denoting the blood type of the individual, whether he is a diabetic taking insulin, any drug idiosyncrasies or whether he is taking anti-convulsant drugs or anti-coagulants.

7. Driving courses should be provided in all public, parochial and private schools supervised by the State Board of Education. A youngster having finished this course could be granted a license to drive at age sixteen. Otherwise, eighteen should be the minimum age.

8. Congressman Kenneth Roberts, Democrat of Alabama, Chairman of the House Committee on Automotive Safety and Health, has introduced a Bill into Congress, HR 920, which primarily calls for the installation of protective safety devices in all cars purchased by the Federal Government as standard rather than optional equipment. We feel that he should be supported in this objective. In the meantime, it is urged that all physicians and nurses equip their cars with seat belts and be active in advocating them to the public.

9. Physical standards for the operation of automotive vehicles will be set sometime within the next one or two years by the American Medical Association and until that study is complete we would suggest that the present rules, regulations and laws be maintained except for the changes previously suggested.

Finally, we favor the speed limits now advocated by the National Safety Council, 55 miles per day, 50 miles per night, 35 miles in urban zones, 40 miles the minimum on improved highways, all with a 5 mile tolerance, and that these limits should be maintained until safer automobiles are provided by Detroit.

ALLEN BARKER, M.D.

CHARLES FRANKEL, M.D.

DUPONT GUERRY, III, M.D.

JOHN MEREDITH, M.D.

FLETCHER D. WOODWARD, M.D., *Chairman*

ADDENDUM

According to recent studies the chance of being involved in an accident is about 50% greater for drivers with between .05 and .10% alcohol in their blood compared to drivers with no alcohol or less than .05% alcohol in their blood. This relation for other blood alcohol concentrations is shown below.

Per cent alcohol in blood	Relative chance of being involved in an accident
Less than .05	1.0
.05 to .10	1.5
.10 to .15	2.5
.15 or more	9.7

Principles and Policies

Re-examination of the report submitted in 1958 in light of the discussion in and action of the House of Delegates, results in the following recommendations by the Committee:

1. That the report adopted be given wide publicity, followed by free discussion in constituent society meetings.

2. That constituent societies appoint committees on Principles and Policies to consider matters of general interest and public relationship affecting the practice of medicine.

3. That consideration by the Judicial Committee be given to including these Principles and Policies into a revision of the Constitution and By-Laws of The Medical Society of Virginia.

4. That copies of the Principles and Policies, as adopted, be given to the public press for wide public dissemination.

BENJAMIN W. RAWLES, JR., M.D.

LOUIS P. BAILEY, M.D.

STUART RAGLAND, JR., M.D.

THOMAS S. EDWARDS, M.D.

M. H. HARRIS, M.D.

JAMES P. KING, M.D.

HARRY C. BATES, JR., M.D.

JOHN T. T. HUNDLEY, M.D., *Chairman*

Conservation of Sight

It is the general feeling of the committee that the National Foundation for Eye Care should receive all the support that can be given it, not only by ophthalmologists, but by medical men in general. It is also felt that a review of the contact lens situation in regard to the dispensing of same by optometrists should be investigated. It would seem also that a critical review of eye factors with regard to highway safety might prove fruitful.

DUPONT GUERRY, III, M.D., *Chairman*

Mental Health

The Mental Health Committee met on March 11, 1959, and again on June 17, 1959.

On November 21 and 22, 1958, the chairman of the committee attended the Fifth Annual Conference of Mental Health Representatives of State Medical Associations. This conference is sponsored by the Council on Mental Health of the American Medical Association and was held in Chicago. This was the second such conference that the chairman has been privileged to attend, and it is his feeling that the medical society should be represented at these conferences each year.

In addition to very interesting addresses by Dr. Gunnar Gunderson, president of the American Medical Association, and Dr. Jonas E. Salk, there were five discussion groups whose topics were as follows:

- I. Emotional Block versus Brain Damage in the Diagnostic Categories of Mental Retardation of Mental Deficiency in School Children
- II. Communicability of Mental and Emotional Illness
- III. Education for Psychiatric Medicine
- IV. The Joint Commission on Mental Illness and Health
- V. Mental Illness in the Aged

At the invitation of the chairman, a committee from the Neuropsychiatric Society of Virginia met with the Mental Health Committee for the purpose of discussing ways and means of a better working relationship between the Neuropsychiatric Society of Virginia and The Medical Society of Virginia, especially in reference to securing more time on the scientific program of the annual meeting of The Medical Society of Virginia, as well as anything that concerns mental health in the State of Virginia that might be of interest to both societies.

It was the unanimous opinion of the committee that an effort should again be made to secure space for a speaker

on the program of the annual meeting of The Medical Society of Virginia to be held in Roanoke on October 4-7, the speaker to be representative of the Mental Health Committee. The chairman of the Program Committee kindly allotted us space on the program, and Dr. Robert Felix, president-elect of the American Psychiatric Association, will address the society on October 6, at 10 a. m.

The committee feels that there is a great lack of understanding among the physicians throughout the State of Virginia concerning the present laws for the commitment of the mentally ill to psychiatric hospitals, either state or private. It was the consensus of the committee that some method should be devised to inform physicians throughout the State concerning the commitment laws. Especially should they be informed of the forty-five day observation commitment that requires only the signature of two physicians and does not require any legal procedure. Perhaps the Department of Mental Hygiene and Hospitals could continue to do this through the Virginia Medical Monthly and other publications that reach the physicians throughout the State.

The committee regrets the unfavorable publicity that has appeared in the press during the past year concerning the state hospitals for the mentally ill. The committee does not wish to condone or condemn these reports, but it is the feeling of the committee that the public seemingly feeds on much that is vague, unrealistic and oftentimes exaggerated information that is gathered from some of the State hospitals. We feel that this is a sad commentary, and it should behoove the Society to do everything possible to convince the public that as a whole good medical and psychiatric care is administered to the patients in our State hospital system. With the above in mind and a realization that the State hospitals are having difficulty staffing the hospitals with adequately trained, native-born psychiatrists, much thought should be given to ways and means of creating a greater interest in psychiatry among medical students, and medical schools should place greater emphasis on mental illness than has been the case in the past.

The committee is aware that progress has been made during the past few years relative to adequate Blue Cross-Blue Shield coverage in mental hospitals for psychiatric conditions. Much is still to be desired, however, especially with reference to the diversity of coverage in various localities throughout the state. Therefore, it is again recommended to the Council of The Medical Society of Virginia that all Blue Cross-Blue Shield plans in Virginia be urged to adopt some equality of coverage in so far as psychiatric and emotional disorders are concerned. We feel that the executive director of the Virginia Hospital Service Association for the Richmond Blue Cross-Blue Shield plans should again be commended for his cooperation and seeming understanding of this situation.

The committee had called to its attention the desirability of a program for the follow-up of patients who have been released from the mental hospitals of Virginia and who will require continued use of tranquilizers.

The Department of Public Health and its trained public health nurses, with additional psychiatric orientation, is being utilized successfully in certain other states. Our mental hospitals lack adequate staffs to provide adequate follow-ups and control, and many patients who are urged

to see their own family physicians are not doing so. It is understood that this joint program for Virginia has been discussed and received some thought by the two commissioners.

It is the opinion of this Mental Health Committee that such a project is desirable. It approves this development and includes it in its recommendation.

We were pleased to have present at both meetings of the Mental Health Committee Mrs. A. B. Gravatt who represented the Mental Health Committee of the Woman's Auxiliary.

It was the feeling of the committee that an attempt should be made to have the Medical Society's Legislative Committee give further thought to the establishment of a psychiatric institute somewhere in the state.

The chairman wishes to express to the remainder of this committee and to Robert I. Howard, executive secretary, his appreciation for their cooperation and assistance in the formulation of this report.

J. RUDOLPH SAUNDERS, M.D., *Chairman*

WALTER J. BRENNAN, M.D.

THOMAS S. EDWARDS, M.D.

R. COLEMAN LONGAN, JR., M.D.

J. M. SCHOENFELD, M.D.

G. EDMUND STONE, M.D.

To Confer with the U.M.W.A. Welfare Fund

We have tried to have two meetings this year but due to unforeseen circumstances they were not held. During the past twelve months no problem has been brought up, either by the area medical directors or by the medical profession in the coal mining area. The economy in the coal fields continues to be poor. The number of men who are benefited by the Welfare Fund is less as employment decreases and mechanization of mines continues to increase each day.

There have been no pertinent questions brought up by the medical profession and a few disputable matters have been taken care of by the area medical directors.

JAMES P. WILLIAMS, M.D., *Chairman*

KINLOCH NELSON, M.D.

MACK I. SHANHOLTZ, M.D.

ALLEN BARKER, M.D.

RUFUS P. BRITAIN, M.D.

W. LINWOOD BALL, M.D.

THOMAS B. HUNTER, M.D.

WILLIAM F. MALONEY, M.D.

H. B. MULHOLLAND, M.D.

LEWIS INGRAM, M.D.

Federal Medical Services

The Committee on Federal Medical Services has followed the legislation proposed and passed during the year which may affect the private practice of medicine.

(1) The Medicare Program was greatly curtailed during the past year. The Federal Services must be utilized for service beneficiaries where the facilities are available. This has greatly reduced the number cared for by private physicians.

(2) The Care of Veterans. The A.M.A. program has advised restriction to service connected care and the return of the non-service connected problems to the states and local communities.

(3) The Hometown Care Program for the Veterans. The Veterans Administration in applying Public Law 85-857 1957 and 1958, rules that fee basic treatment will not be authorized unless government facilities are not feasibly available.

The Congress has passed a Federal Employees Health Insurance bill which will become effective July 1, 1960. It provides that the Federal Government will pay fifty per cent of the cost of the premiums. This program will be administered by Blue Cross-Blue Shield and the private Insurance Companies.

The Forand Bill which is under consideration by the Congress provides medical care for the beneficiaries of Social Security and at the time of this report has not been acted upon.

Your committee will continue its study of legislation affecting the private practice of medical care and endeavor to keep you informed.

JOHN T. HAZEL, M.D., *Chairman*

Radiation Hazards

Your Committee has given much study to the need for legislation which would declare the public policy of the State with reference to radiation and radio-active material. As a result of this study, the Committee recommends that the House of Delegates of The Medical Society of Virginia approve the following proposed Bill and do everything possible to seek its enactment by the General Assembly of Virginia.

A BILL

To declare the public policy of the State with respect to radiation and radioactive materials; to define certain terms; to create a State Radiation Control Agency and a committee to assist such agency; to prescribe the powers and duties of such agency and committee; to prohibit certain practices; and to provide penalties for violations.

Be it enacted by the General Assembly of Virginia:

1. § 1. Whereas radiation has become instrumental in the improvement of health, welfare, and productivity of the public when properly utilized, and whereas it may impair the health of the people and the industrial and agricultural potentials of the State if improperly utilized, and whereas The Medical Society of Virginia has recognized the need for regulation and safeguarding of radiation hazards, it is hereby declared to be the public policy of the Commonwealth of Virginia to encourage the constructive uses of radiation and to control any associated potentially harmful effects.

§ 2. The following words and phrases when used in this act shall, for the purpose of this act, have the meanings respectively ascribed to them in this section:

a. "Radiation"—gamma rays and x-rays, alpha and beta particles, high speed electrons, neutrons, protons, and other nuclear particles; but not to include sound waves or electromagnetic radiation of a wave length greater than 200 Å°.

b. "Radiation machine"—any device that produces radiations when the associated control devices are operated.

c. "Radioactive material"—any material that emits radiation spontaneously.

§ 3. a. The State Department of Health is hereby designated as the State Radiation Control Agency, hereinafter referred to as the Agency.

b. The State Commissioner of Health, or such deputy as he may from time to time designate, shall perform and carry out all functions and duties under this Act.

c. There is hereby established within the State a Radiation Technical Advisory Committee, hereinafter referred to as the Committee, consisting of ten members. The State Health Commissioner shall be a member of the Committee ex officio. The other nine members shall be appointed by the Governor, and shall be persons with scientific training in one or more of the following fields: genetics, health, agriculture, medicine, diagnostic roentgenology, therapeutic radiology and nuclear medicine, dentistry, radiation physics, biology, industry and atomic energy. Committee members shall serve at the pleasure of the Governor.

d. The Committee shall hold four regular meetings each calendar year, and special meetings as deemed necessary by the Committee, or by the State Health Commissioner. It shall be the duty of the Committee to provide the Agency with such technical advice and assistance as may be required relative to permissible exposure levels, standards of practice, radiation instrumentation, and other technical matters. Members of the Committee, other than the State Commissioner of Health, shall be entitled to receive compensation of thirty dollars per diem and reimbursement for actual and necessary traveling and subsistence expenses while engaged in the business of the Committee.

§ 4. The Agency shall have the following powers and duties:

a. To cooperate with and render assistance to the Division of Inspection of the United States Atomic Energy Commission, and any and all other agencies of the Federal government which may have official interest or authority in the detection, measurement, or control of radiation.

b. To cooperate with and render assistance to other agencies of the Commonwealth of Virginia or of its political subdivisions in matters related to the purposes of this Act.

c. To, upon request, render opinion concerning plans and specifications on the design and shielding for radiation sources submitted before or after construction or installation sources submitted before or after construction or installation, for the purpose of determining the possible radiation hazard.

d. To, with the approval of the State Board of Health, adopt and promulgate such rules and regulations as it deems necessary to further the purposes of this Act; such rules and regulations may incorporate by reference the recommended standards of nationally recognized bodies in the field of radiation protection such as the National Committee on Radiation Protection or the American Standards Association.

e. To, as a service to the public, attempt to secure compliance with Radiation Protection Rules and Regulations, or with nationally accepted standards, by inspection and report, or by instructions, demonstration, or persuasion. Where such devices fail, and where the State Board of Health and the Agency agree that a serious hazard to

health from radiation exists, an emergency order shall be issued for the abatement of the hazard.

f. To encourage, participate in, or conduct studies, investigations, training, research, and demonstrations relating to the control of radiation hazard, the measurement of radiation, the effects of radiation exposure to health, and other related problems.

g. To accept loans, grants or other funds or gifts from the federal government and from other sources, public and private, for carrying out any of its functions.

§ 5. It shall be unlawful for any person, firm, institution or agency to produce radiation, or to produce, use, store, or dispose of radioactive materials including radium, unless the machines or materials involved have been registered in writing with the Agency, except that a period of ninety days shall be allowed for such registration after the effective date of this Act. (See paragraph 8)

§ 6. a. Any person who violates any of the provisions of, or who fails to perform any duty imposed by this Act, or who violates any order of the Agency promulgated pursuant to this Act, shall be guilty of a misdemeanor, and in addition thereto may be enjoined from continuing such violations. Each day upon which such violation occurs shall constitute a separate offense.

b. It shall be the duty of the Attorney for the Commonwealth in any locality wherein a violation of this Act is alleged to have occurred on the request of the Agency to bring an action for injunction against any person violating the provisions of this Act, or violating any order of the Agency.

§ 7. This Act shall not be construed as repealing any laws of the State relating to radiation sources, exposures, radiation protection, and professional licensure, but shall be held and construed as auxiliary and supplementary thereto, except to the extent that the same are in direct conflict herewith.

§ 8. This Act shall not apply to any person or activity who or which is subject exclusively to legislation enacted by the Congress concerning atomic energy and uses thereof.

2. If any section, subsection, part or portion of this Act is for any reason held to be unconstitutional, such holding shall not affect the validity of any remaining portion of this Act.

Perhaps it should be mentioned that the Chairman of the Committee has consulted with a member of the General Assembly concerning the proposed Bill, and received only one suggestion. It was recommended that consideration be given to deleting any reference to a specific per diem for members of the proposed Radiation Technical Advisory Committee.

Your Committee has made known its desire to participate in hearings conducted by the VALC Committee assigned to study radiation hazards. The Chairman has been assured that he will be notified when such hearings are held.

P. B. PARSONS, M.D., *Chairman*
GEORGE COOPER, JR., M.D.
FRANK R. KELLY, JR., M.D.
MACK I. SHANHOLTZ, M.D.

National Legislative

There was considerable activity on the part of this

Committee since two issues vitally affecting medicine were before Congress.

(1) *Forand Bill*: Your Committee consisting of the Councilors of the State Society contacted the individual Congressmen and Senators expressing opposition to this bill. In addition the chairman representing The Medical Society of Virginia testified in Washington before the House Ways and Means Committee on July 17th in opposition to this bill. At the present time (July 20) it seems that action on this bill will be deferred until next year. It is an ever present threat and the proponents will undoubtedly introduce this again. All members of the State Society are urged to contact their representatives and Senators during the Congressional recess and make their feelings known.

(2) *Keogh Bill*: Additional hearings on this will be held the latter part of July. Your Committee has contacted the Congressmen and Senators urging support of this tax deferment bill, which passed the House, and at present is in the hands of the Senate Finance Committee.

The Chairman of this Committee testified before the Senate Finance Committee in support of this bill.

Your Committee is grateful for the help given it by the individual members, and urged all members to become well informed on Socio-Medico-Economic problems. This is vitally important, particularly at this time, and each member is requested to read the A.M.A. news, the organization section of the J.A.M.A. and the comparable sections in the Virginia Medical Monthly. Certainly, since these subjects are so tremendously important and action on them may so vitally change medical practice it is imperative that physicians inform themselves, and talk to various lay people as well as members of Congress. It is suggested that physicians spend 10% as much time studying these problems as they spend on medical reading.

VINCENT W. ARCHER, M.D., *Chairman*

Insurance

Your Committee has had only one meeting this year, but there has been voluminous correspondence. It would seem that insurance as pertaining to professional people is a big business and we have received many proposals for various type of group policies, some of which were gone over carefully and others were kept for future study.

At our meeting on February 6, 1959, in the Society Headquarters in Richmond, Mr. Don Clifford, of the St. Paul Insurance Company home office, reported on the Society's professional liability insurance program and stated that steady progress was being made. He stated that 800 members of the Society are now participating in the program and that during 1958 premiums were paid in the amount of \$97,654. It was most encouraging to learn that incurred losses during that same period amount to but \$7,911. It was also reported that since the program went into effect three years ago a total premium of \$237,347 has been paid and incurred losses have totaled \$26,873. This means, of course, that the experience in Virginia has been unusually good. Mr. Clifford in commenting on the experience, stated that the St. Paul Insurance Company felt justified in filing with the State Corporation Commission a request for a premium rate reduction. The proposed reduction would be approximately twelve per cent of cur-

rent rates. The Committee was quite pleased with this proposal and expressed the hope that the Company would proceed with its plans. (Since our meeting this rate reduction has gone into effect.)

Dr. Guy Horsley discussed the lack of a "written consent" clause in the policy. It was brought out that many physicians had objected to the omission of this clause and that undoubtedly the program's growth had been affected to some degree. Mr. Clifford assured the Committee that he would take this matter up with home office officials as soon as he returned to St. Paul. A question was then raised as to whether or not a doctor paying the premium for physicians would be covered if a malpractice suit should result from his having assisted in surgery. It was explained that the physician would definitely be covered and that the question was one of rating rather than coverage. Rating is a company responsibility and does not in any way affect the doctor's coverage.

A report on the Society's sickness and accident program was requested and a letter from the Loyalty Group revealed that 1,137 members of the Society are now participating. Premiums during the last three years have totaled \$478,503.73. Losses actually paid during that period amount to \$258,608.87. The Company considers this experience to be very satisfactory and has reduced by 25% those premium costs for members under 25 years of age. It was also reported that the Company is making careful study of the advisability of offering increased weekly indemnity and an extension of the length of disability. A number of physicians have written the Society in recent months requesting an increase in benefits.

Mr. Dave Dyer, Roanoke, spoke to the Committee on the Society's new major hospital and business overhead program. (Since our meeting, Mr. Dyer has reported that the goal of 500 physically acceptable members have been enrolled so that underwriting requirements will be waived for those applicants who are physically unacceptable at the moment.)

Your Committee has had correspondence with a representative of World Insurance Company relative to additional protection on health and accident insurance, regardless of the amount which is now carried under professional policies. This matter will come before the entire Council in October.

We have received several proposals on group life insurance, all of which were turned down. However, if this insurance is desirable on a local basis, this Committee would have no objections to same.

As this report goes to press, we have a called meeting of the Insurance Committee set for July 24, 1959, at which time foremost on the agenda will be consideration of a proposed combination insurance-investment program designed with the Keogh-Simpson legislation in mind. As you know, this particular legislation has been supported by physicians for some time.

C. M. McCoy, M.D.

GUY W. HORSLEY, M.D.

W. D. LEWIS, M.D.

J. R. B. HUTCHINSON, M.D.

LOUIS P. BAILEY, M.D.

ANDREW F. GIESEN, M.D., *Chairman*

Cancer

The Cancer Committee has during the past year concentrated its efforts towards the establishment of a State Central Cancer Registry. This work is being done in conjunction with the State Health Department and the Virginia Division of the American Cancer Society.

The annual review of Tumor Clinic activities has not been conducted, this being deferred until the registry becomes established or until such time as the Committee feels that it is indicated to make such a survey.

CLAIBORNE FITCHETT, M.D.

GEORGE COOPER, M.D.

WILLIAM DOLAN, M.D.

W. R. SOUTHWARD, M.D.

LOUIS A. LEONE, M.D.

W. C. FITZGERALD, M.D.

CARY A. STONE, M.D.

CHARLES A. CROCKETT, M.D.

RICHARD N. DENOIRD, M.D.

JOHN R. KNIGHT, M.D., *Chairman*

Liaison with the Department of Public Welfare

The Liaison Committee met with representatives of the Department of Public Welfare in the Board Room of the State Department of Welfare and Institutions, July 11, 1959.

Mr. Painter reviewed the developments relating to medical care of indigent and medically indigent persons since the last meeting of the Committee and presented current aspects of the medical care programs which the Department wished the Committee to consider.

A brief outline of a study which the Virginia Advisory Legislature Council is making of the problem of financing hospital care for indigent and medically indigent persons was presented, in which a statement prepared by the Department and presented to the VALC committee showed an expenditure of approximately \$868,500.00 under the state-local hospitalization program. There was considerable discussion of the responsibility of a locality to provide medical care for needy persons. It was noted that some localities in the state are reluctant to assume this responsibility as regards hospital care and that there is no way under the present law to require it. Mr. Painter pointed out that if hospital care were provided through public assistance for recipients of old age assistance, aid to dependent children, aid to the permanently and totally disabled and aid to the blind, all localities in the state would have to participate in financing such care for eligible persons within such limits as would be specified in the public assistance plans.

The Committee went on record as favoring (1) local financing of hospital care as far as possible with state and federal participation only when necessary, and (2) some provision whereby localities can be required to assume their responsibilities within their ability so to do.

Mr. Painter presented to the committee a statement prepared for a VALC committee of expenditures from public funds for physicians' fees and drugs, based on data for January, 1957, showing physicians' services in amount of \$297,372 and drugs \$525,312. After some discussion of the amounts involved in these two items, the committee expressed the opinion that expenditures for drugs could be reduced if payment were allowed only for items on a

state approved list of basic drugs. It was also agreed that there is need for closer working relationships and cooperation between local medical groups and local departments of public welfare. The committee felt that it would be well that liaison committees for public welfare be created by regional and local medical societies. The chairman of these committees could represent the State Liaison Committee in their respective districts or areas.

The Committee also favored direct (vendor) payment for medical needs such as physicians' fees and drugs.

A. L. CARSON, M.D.

JOHN P. LYNCH, M.D.

KINLOCH NELSON, M.D.

HORACE E. KERR, M.D.

H. B. MULHOLLAND, M.D.

G. B. SETZLER, M.D., *Chairman*

Rehabilitation

The Rehabilitation Committee, which also functioned as the Medical Advisory Committee to the Vocational Rehabilitation Service of the State Department of Education, has been active during the year.

Individual members of the committee, representing several specialty fields and living in various geographical areas, continually provide consultative services to the professional staff of the Rehabilitation agency. In the course of a year professional advice is given on a substantial number of situations involving complicated medical problems. The Agency has assisted in the revision of parts of the professional fee schedule and the development of policies regarding the provision of physical restoration services to eligible handicapped individuals.

Several members of the committee have worked actively with those responsible for staff training in the Rehabilitation Service in planning for and providing training for the professional staff of the Agency. In recent conferences of the professional staff, training has been provided in the fields of cardiovascular disorders, problems of paraplegics, and rehabilitation of the deaf and hard of hearing.

ROY M. HOOVER, M.D., *Chairman*

GEORGE A. DUNCAN, M.D.

J. R. BLALOCK, M.D.

LEROY SMITH, M.D.

A. L. CARSON, M.D.

G. S. FITZ-HUGH, M.D.

EDWARD E. HADDOCK, M.D.

RENO PORTER, M.D.

CHARLES L. SAVAGE, M.D.

F. J. WRIGHT, M.D.

FRANK B. STAFFORD, M.D.

A. RAY DAWSON, M.D.

BENJAMIN W. RAWLES, JR., M.D.

J. TREACY O'HANLAN, M.D.

JOHN N. PASTORE, D.D.S.

National Emergency Medical Service

We are pleased to report considerable progress in the past year in our effort to prepare the state for any type of disaster. Since the chairman of this committee is also the Chief, Health and Special Weapons Defense of the State Office of Civil Defense, there has of necessity been an overlapping of duties.

There has been a complete reorganization of the Med-

ical Staff of Civil Defense, whereby the state departments are charged with the responsibilities of their various missions which they normally carry out. One result of this is to place each local health director, both county and city, as the administrative head of health and medical services. This makes him responsible for all training, planning and preparing for disaster, and also holds him responsible for all expanded public health activities. The health director is required to appoint, with guidance and approval of the local medical society, a physician to head up actual medical care of casualties and for patients. This physician has no responsibility other than to organize his staff and care for patients.

While there are over 100 First Aid stations stored at strategic points in the State it is felt that more are needed for local or natural disasters. Since these stations are purchased through matching funds many counties do not feel they can afford this purchase.

There are now twenty-four (24) prepositioned 200-bed emergency hospitals in Virginia, located at Richmond, Charlottesville, Roanoke, Winchester, Fredericksburg, Franklin, Manassas, Floyd, Waynesboro, Greensville, Bowling Green, Crozet, Wakefield, Waverly, Pulaski, Wytheville, South Boston, Chatham, Buena Vista, Bedford, Danville, Radford and Pearisburg. Five more have been requested for Clifton Forge, Christiansburg, Lynchburg, Occoquan and Madison.

There are two hospital centers prepared for national emergency—Rockingham Memorial Hospital with Madison College at Harrisonburg, and Mary Washington Hospital, Mary Washington College in Fredericksburg. These units can care for approximately 2000 patients each.

A State Operational Survival Plan has been published by the Office of Civil Defense with annexes for all services included. Each local health director has been furnished with the medical annex which includes an outline for all medical resources, an operational plan, plus much detailed information pertinent to disaster including radioactive fallout from thermonuclear explosion.

Training is continuous in First Aid classes, nursing care of mass casualties, and radiological monitoring. We have endeavored to have local medical societies devote a percentage of their meetings each year, to the care of mass casualties. The response has not been very gratifying.

The committee feels that much has been accomplished, but there still remains much more to be done.

E. CATO DRASH, M.D.

FRANK A. KEARNEY, M.D.

MEYER I. KRISCHER, M.D.

ALEXANDER MCCAUSLAND, M.D.

CHARLES R. RILEY, M.D.

W. ROSS SOUTHWARD, JR., M.D., *Chairman*

Aging and Chronically Ill

During the past year the problems of the aging and chronically ill have been brought into sharp focus by the actions of the United States Government. Many bills pertaining to this group of citizens have been introduced into the Congress or Senate in the past few years. The President is to hold a vast conference in 1961 in Washington, D. C., to plan for the future care of the aged of the United States, and preliminary planning is already under way for this.

Apparently there is a two-fold reasoning behind this great activity. One cause of increasing need for help is the relatively sudden realization that large numbers of our population are reaching, or soon will reach, chronological "old age". The other reason for the sudden flurry of activity for these people is the realization that they represent political votes.

From a humanitarian point of view, it must be admitted that some of our senior citizens each sixty-five years of age in poor condition, physically, psychically and financially. They often are the victims of one or more chronic illnesses which make life unpleasant, or difficult or almost (but not quite) unbearable. They begin to see their life-long friends fade away—they are let out of their work by retirement—they no longer can obtain some forms of insurance—they are penalized by being denied their long-paid-for social security, if they earn more than a mere pittance.

From a political standpoint, this group now represents nearly fifteen million (15,000,000) eligible voters, all with some of the same problems and similar complaints. This total number is growing rapidly and will continue to do so. A great many of them have reached the point where national interests become secondary to personal security, simply because of their changing viewpoint. This is a rich political prize which may fall to the politicians and political party giving the biggest promises.

Because both aspects so markedly touch on the medical profession, this Committee has tried to keep pace with developments in this field. We have held two meetings this year and contemplate yet a third, before our Annual Meeting of The Medical Society of Virginia. On January 28, 1959, the Committee met in Richmond. The various brochures on problems of the aging, published by the American Medical Association, were discussed. It was decided to request the local component societies to each develop a Committee on Aging and Chronically Ill, so that the work of this Committee can be further dispersed. Dr. Shanholtz, State Commissioner of Health, stated that the State Health Department had many statistics and survey available, and could possibly help in some local projects pertaining to the aged and chronically ill, if requested to do so. This assistance would probably come through, or in conjunction with, the local health authorities, if granted. It was decided to send the Component Societies information published by the American Medical Association as it is received. This has been started, wherever a local Committee on Aging has been activated.

The second Committee meeting was held on July 16 in Richmond. Several members of the Committee were absent. The Chairman reported on his attendance at National meetings in Washington, D. C., (Joint Council to Improve the Health Care of the Aged) and Ann Arbor, Michigan, (Training Institute for the White House Conference). There was some discussion regarding the proposed Senior Citizens Contract of the Virginia Medical Service Association (Richmond Blue Shield). It was recommended that the sub-Committee on Pre-Payment Hospital and Medical Insurance of the Medical Service Committee study the contract and make recommendations to the Executive Committee of the Council.

The Director of the Governor's Commission on Aging, Mr. John Raine, was then introduced to the Committee

members. Mr. Raine expressed concern over the number of people in mental hospitals who are not mentally ill, but who are put there merely for custodial or domiciliary care. This costs the State more than twice as much per day as would nursing home care for these people. The total extra expense over a year is very great.

Mr. Raine then discussed the problem of nursing homes, as such, and stated that the nursing home situation in Virginia is not good, that there is insufficient control of their standards, and that the law does not make better control feasible. Dr. Southward indicated that the State Department of Health has a plan for classifying and regulating nursing homes, but does not have authority to put it into effect.

Mr. Raine requested that this Committee, and through it The Medical Society of Virginia, do its utmost to assist in clearing up the nursing home problem and in removing domiciliary patients from the mental hospitals of Virginia. The Committee especially noted that these patients would not be present in these mental hospitals if they had not been originally placed there by the action of a physician.

Mr. Raine then invited the members of our Committee to meet with the Governor's Commission at an early date. A supplementary report of this meeting will be made, if it takes place before our Annual Meeting.

Two members of the Committee, Dr. Malcolm Harris and Dr. Ira Hancock, advised the Committee concerning the administrative arrangement and very satisfactory and effective work being done by the Patrick Henry Hospital in Southeastern Virginia. Seventeen counties use this facility as a cooperative nursing home, and these members of the Committee feel this might well be a model for similar facilities elsewhere in Virginia.

The Committee has just begun to understand and appreciate the magnitude of its area of work. With ten per cent of Virginia's population over 65 years of age, and more reaching this point every day, a great many problems need solving. Time to work out sound solutions is necessary. It is hoped that we, as a Society, can help those in authority solve the problems of the aging without socialistic devices and to the betterment of our unfortunate citizens in this category who may need help. Let us not force our paternal care on those who are satisfied, happy, and in no need of such attention.

H. B. MULHOLLAND, M.D.

IRA L. HANCOCK, M.D.

MACK I. SHANHOLTZ, M.D.

M. H. HARRIS, M.D.

LOUIS P. BAILEY, M.D.

HARRY C. BATES, JR., M.D., *Chairman*

American Medical Education Foundation

This Committee finds itself in a disappointing position. It has worked hard but must report failure.

Regarding the American Medical Education Foundation these things seem apparent:

1. It is a very worthy cause, one which nearly all physicians support locally. It seems to us that AMEF should take precedence over many of the other drives to which we give time and effort.

2. Contribution by Virginia physicians is not disgracefully low. \$8,875.50 was given in 1958. This is

accomplished, however, by large contributions by a small number of physicians. A total of \$2,200 was given by only 18 physicians. There are 2,875 members in the medical society.

3. Virginia contribution rate remains steady, seemingly regardless of how well or poorly this Committee performs.

In view of these things it seems plain that our membership is not being reached. This Committee had hoped the solution might be for the State and local societies to work together. To accomplish this a series of letters, including one from the President of the Medical Society, was sent to each local society asking the appointment of a local AMEF chairman. Disappointingly, only 15 societies complied.

A part of the plan was to have a yearly meeting in Richmond of the local chairman and the state Committee. In March of this year this meeting was held. Only the societies of Norfolk, Alexandria, Richmond, and Portsmouth sent representatives. Mr. Oliver of the AMEF was present as were representatives from the Medical College and the University of Virginia.

The failure of the local organization plan was by then apparent. In previous years the large state committee plan had not worked well. In effect, all avenues of approach have been tried except that of dues assessment. This has been successful in many other states. There was strong sentiment from the local chairmen present at the March meeting to adopt the dues assessment idea. This Committee agreed to present and support this at the Council of the Society at the October meeting.

JOHN C. WATSON, M.D., *Chairman*
JAMES B. ADAMS, M.D.
GEORGE CRADDOCK, M.D.
K. K. WALLACE, M.D.

Maternal Health

The Committee on Maternal Health met March 11 and July 25, 1959, with eleven members present at each meeting.

The Sub-Committee on Licensing and Controlling Midwives was to present to the full Committee an outline of a teaching program for present and prospective midwives.

The Sub-Committee on Maternal Death classifications stated that the present classifications used by the Committee is more extensive than that used by committees in several other states. The Committee requests that the Attorney for The Medical Society of Virginia formulate possible legislation so that all information secured in a maternal death could be privileged, statistical and unavailable for any court action.

At the second meeting the Committee was informed of the death of the Attorney for The Medical Society of Virginia, and, until a new attorney is secured by the Society, consideration of recommendations for legislation regarding the privileged nature of maternal death material could be withheld.

The Committee agreed that the reports of maternal deaths would be made to attending physicians on request. The Sub-Committee on Licensing and Controlling Midwives recommended that the word "sanitary" be deleted from section 32-329 of the Code of Virginia. The Committee accepted this recommendation for presentation to the State Medical Society for consideration.

The Program Committee of the State Medical Society will be notified that the Committee on Maternal Health is available for the 1960 program of the Society.

The terminology and classification as recommended by the American Medical Association in the "Guide for Maternal Death Studies"—1957 will be used in the study of maternal deaths in this state.

A letter was received from the Maternal Health Committee of another state requesting information for statistical purposes on maternal deaths in our state. The Committee agreed to send this information as requested. The Sub-Committee on Hospital Standards presented recommendations for changes in the Maternity Hospital Laws. After careful consideration of these proposals the Committee voted unanimously to recommend to the Society these clarifications.

The following motion, approved by the full Committee is to be presented to The Medical Society for its consideration: "As a result of the Study of Maternal Deaths in Virginia, the Committee agreed that certain of these deaths might have been prevented if a policy were followed whereby interns and residents consulted with an attending physician concerning any major obstetrical procedure before any treatment is instituted. The Committee, therefore, recommends that the observance of such a policy be adhered to through the state."

E. S. GROSECLOSE, M.D., *Chairman*
A. TYREE FINCH, M.D.
H. HUDNALL WARE, M.D.
L. L. SHAMBURGER, M.D.
GEORGE E. HURT, M.D.
MASON C. ANDREWS, M.D.
CHESTER L. RILEY, M.D.
JOHN H. MARSELLA, M.D.
W. N. THORNTON, M.D.
JAMES J. DUNNE, M.D.
W. J. HAGOOD, M.D.
K. CHARLES LATVEN, M.D.
WILLIAM M. GAMMON, M.D.

Current Currents

COMMITTEE REPORTS are published in this issue and should be read by all members. A knowledge of Committee activities and objectives is necessary if the work of the Society is to be properly evaluated.

AN EXPLANATION is in order for those members who have been unable to obtain reservations at the Hotel Roanoke during the Annual Meeting. It is natural that most physicians attending their Society's Annual Meeting would wish to have accommodations at the headquarters hotel. Members of The Medical Society of Virginia are no different and each year the problem becomes greater. The cruel truth is that no one hotel in Virginia can, at this time, make available a sufficient number of rooms to house all of our members and exhibitors under one roof. Consequently, a portion of each group finds it necessary to make reservations elsewhere.

By direction of the House of Delegates, a block of rooms is set aside for Delegates and guests, but these are released each year just as soon as possible. The Hotel attempts to confirm all reservations in chronological order.

Fortunately, however, our convention cities have other good hotels and a number of excellent and attractive auto courts. We sincerely hope that inability to obtain a reservation at the headquarters hotel will not keep anyone from attending the Meeting.

MEDICAL MOTION PICTURES will be shown this year on a far greater scale than ever before. A special committee has selected eight of the best films currently available, and they will be shown on Monday afternoon at 3:00 P.M. Check your official program for titles and locations.

THE REFERENCE COMMITTEE, considering all resolutions introduced in the House of Delegates, will meet in the Ballroom of the Hotel Roanoke on Monday afternoon at 2:30 P.M. This is an excellent opportunity to observe your Society at work. The Committee is meeting in the Ballroom in order that seats might be available for all.

DO NOT FORGET the Wednesday morning session on Social Security. This is the discussion members have been requesting. Bring your questions, hear both sides and then make your decision.

THE NATIONAL FOUNDATION is asking the help of Virginia physicians in proving the efficacy of the Salk vaccine. Dr. Salk is currently conducting, at the University of Pittsburgh, a study on paralytic polio cases reported in Virginia which have had three or more shots.

Dr. Salk would like acute blood specimens taken within three days of onset, a second specimen three weeks later and also stool specimens during the hospital stay. Each Foundation office has a supply of blood venules and stool containers and will work with the physician in every possible manner. Thus far, the Foundation has not been learning of three-shot polio cases until many days after onset. This means that it has been impossible to obtain first bloods and that this particular phase of the study has been handicapped as a result.

THE STATE DEPARTMENT OF HEALTH wishes to remind physicians that a special virus laboratory, functioning as a part of the State Laboratory, is available to them for assistance in diagnosing suspected or clinically diagnosed cases of polio.

THE OHIO STATE MEDICAL ASSOCIATION believes that physicians should realize that they do themselves a disservice when they fail to support and publicize their society's grievance committee. According to the Association, "The stature of the physician is increased in the eyes of his patient when the patient knows that he supports and conducts himself within his grievance committee's concepts."

THE FEDERAL AVIATION AGENCY is expected to modify its original plan to make heart disease, diabetes and psychoneurotic conditions disqualifying for certification. FAA has also postponed its plan to require all physicians giving physicals to plane pilots to be designated medical examiners with official accreditation. Transport and commercial pilots still, however, must go to designated medical examiners for their physicals.

THE MEDICAL SOCIETY OF VIRGINIA was one of twelve state societies which testified against the Forand Bill during recent hearings by the House Ways and Means Committee. Other neighboring societies which testified were North Carolina, Tennessee, and Kentucky.

THE 1960 ANNUAL MEETING of the Society will be held in Virginia Beach from October 9-12.

DELEGATES TO THE 1959 MEETING THE MEDICAL SOCIETY OF VIRGINIA

Where no name is listed it is indicative that no delegate or alternate was reported in time for publication.

<i>Delegates</i>	<i>Alternates</i>
Accomack	
Dr. Walter A. Eskridge	Dr. Donald F. Fletcher, Jr.
Albemarle	
Dr. G. S. Fitz-Hugh	Dr. J. R. Massie, Jr.
Dr. Wm. N. Thornton, Jr.	Dr. E. Cato Drash
Dr. Thomas S. Edwards	Dr. George S. Spence
Alexander	
Dr. Richard E. Palmer	
Dr. John C. Watson	
Dr. Milton R. Stein	
Alleghany-Bath	
Dr. William P. Fletcher	Dr. Donald Myers
Dr. Jeanette Jarman	Dr. Thomas N. Warren
Amherst-Nelson	
Arlington	
Dr. William D. Dolan	Dr. Thomas A. McGavin
Dr. John T. Hazel	Dr. Edmund P. Naccash
Dr. K. Charles Latven	Dr. W. C. Welburn
Augusta	
Dr. William G. Painter	Dr. J. H. Thomas
Dr. Boyd H. Payne	Dr. McKelden Smith
Dr. Charles L. Savage	Dr. Treacy O'Hanlan
Bedford	
Dr. William V. Rucker	Dr. O. B. Darden, Jr.
Botetourt	
Buchanan-Dickenson	
Dr. J. C. Moore	Dr. Thomas MacDonald
Dr. T. C. Sutherland	Dr. J. P. Sutherland
Charlotte	
Culpeper	
Dr. Cecil G. Finney	Dr. J. Bernard Jones
Danville-Pittsylvania	
Dr. J. J. Neal	
Dr. Snowden C. Hall, Jr.	
Fairfax	
Dr. John Prominski	Dr. Roland E. Bieren
Dr. Peter Soyster	Dr. J. D. Zylman
Fauquier	
Floyd	
Fourth District	

<i>Delegates</i>	<i>Alternates</i>
Fredericksburg	
Dr. David W. Scott, Jr.	
Dr. William D. Liddle, Jr.	
Dr. James E. Grimes	
Dr. Claude A. Nunnally	
Halifax	
Dr. Lloyd W. Eastlack	Dr. James K. Hinton
Hampton	
Dr. Frank A. Kearney, III	Dr. Oscar W. Ward, Jr.
Hanover	
Dr. Mann T. Lowry	Dr. R. W. Mosely
James River	
Dr. W. A. Pennington	Dr. Garland Dyches
Dr. J. H. Yeatman	Dr. L. R. Stinson
Lee	
Dr. G. B. Setzler	Dr. Beryl H. Owens
Loudoun	
Louisa	
Lynchburg Academy	
Dr. Holcombe H. Hurt	
Dr. Harold Riley	
Dr. Phillips Bryan	
Mid-Tidewater	
Dr. J. W. Chinn	
Dr. A. L. Van Name, Jr.	
Dr. Richard B. Bowles	
Dr. Raymond Brown	
Dr. W. H. Hosfield	
Dr. Carl Broadus	
Dr. Joseph R. Parker	
Newport News	
Dr. Russell Buxton	Dr. F. N. Thompson
Dr. E. V. Siegel	Dr. J. W. Tankard
Dr. Paul Hogg	Dr. E. B. Mewborne
Dr. A. A. Creecy	Dr. Q. J. Legg
Norfolk	
Dr. W. Callier Salley	Dr. G. H. M. Rector
Dr. Claiborne W. Fitchett	Dr. Charles Horton
Dr. William L. Taliaferro	Dr. Donald Faulkner, II
Dr. Harry M. Frieden	Dr. G. S. Taylor, III
Dr. Mallory S. Andrews	Dr. A. L. Sheldon
Dr. Mason C. Andrews	Dr. C. M. McCoy
Dr. Samuel M. McDaniel	Dr. James Wolcott, IV
Northampton	
Dr. E. M. Henderson	Dr. John R. Hamilton

<i>Delegates</i>	<i>Alternates</i>	<i>Delegates</i>	<i>Alternates</i>
Northern Neck			
Dr. J. Motley Booker	Dr. Leonard C. Booker	Dr. B. Noland Carter, II	Dr. Emmett Mathews
Dr. Paul C. Pearson	Dr. Harold E. Sisson	Dr. G. Benjamin Carter	Dr. Rex Blankinship
Dr. Horace E. Kerr	Dr. E. T. Ames	Dr. Custis L. Coleman	Dr. William Young
Dr. Norman R. Tingle	Dr. A. B. Gravatt	Dr. F. E. Oglesby	Dr. E. B. Carpenter
		Dr. Kenneth J. Cherry	Dr. James Blades
		Dr. Virgil R. May, Jr.	Dr. J. R. Massie, Jr.
Northern Virginia		Roanoke Academy	
Dr. James R. Holsinger	Dr. M. J. W. White	Dr. David S. Garner	Dr. Houston L. Bell
Dr. Dennis P. McCarty	Dr. E. B. Sherman	Dr. George S. Hurt	Dr. Gordon G. Carmichael
Dr. H. P. Maccubbin	Dr. George Murphy	Dr. Reverdy H. Jones, Jr.	Dr. Robert L. A. Keeley
Dr. J. P. Snead	Dr. Charles L. Riley	Dr. William H. Kaufman	Dr. T. J. Humphries
Dr. Frank E. Tappan	Dr. Carrol Iden	Dr. Harry B. Stone, Jr.	Dr. Louis P. Ripley
Dr. Harold W. Miller	Dr. Fred Maphis, Jr.	Dr. P. A. Wallenborn, Jr.	Dr. Alfred J. Wolfe
Orange		Rockbridge	
Dr. J. G. Bruce, Jr.	Dr. David Miller	Rockingham	
Patrick-Henry		Dr. George N. Nipe	Dr. Charles C. Powell
Dr. William N. Thompson	Dr. E. T. McNamee	Dr. John T. Glick, Jr.	Dr. J. C. Harshbarger
Dr. Samuel W. Adams, Jr.	Dr. L. A. Faudree	Russell	
Dr. Philip M. Sprinkle	Dr. J. H. Irby	Scott	
Portsmouth		Southwestern Virginia	
Dr. Russell M. Cox	Dr. George Carr	Tazewell	
Dr. Paul W. Robinett	Dr. T. B. Jones	Dr. Rufus Brittain	Dr. J. M. Robinson
Princess Anne		Tri-County	
Dr. Ira L. Hancock	Dr. James P. Charlton	Dr. George Carroll	Dr. Phillip R. Thomas
Richmond Academy		Dr. J. W. Lambdin	Dr. Henry L. Gardner
Dr. Thos. W. Murrell, Jr.	Dr. M. M. Pinckney	Dr. Rea Parker	Dr. Hugh Warren, Sr.
Dr. Robert V. Terrell	Dr. H. Page Royster	Dr. William Eddy	Dr. Holmes Chapman, Jr.
Dr. Webster P. Barnes	Dr. Stuart Ragland, Jr.	Williamsburg-James City	
Dr. John M. Meredith	Dr. W. Linwood Ball	Wise	
Dr. Carl W. Meador	Dr. Harold I. Nemuth	Dr. Gordon E. Shull	Dr. William Schmidt
Dr. Merritt W. Foster, Jr.	Dr. George Vaughan		
Dr. Russell G. McAllister	Dr. A. I. Dodson, Jr.		
Dr. Arthur Klein	Dr. Charles Troland		

SCIENTIFIC EXHIBITS

Scientific exhibits will be located in the exhibit hall in the basement of the Hotel Roanoke. They are as follows:

Current Results in the Repair of Unilateral Cleft Lips—Henry Brobst, M.D., Roanoke.

Esophageal Hiatal Hernia Repair—Results of Improved Technique—Marcellus Johnson, III, M.D., Roanoke.

Atherosclerosis—Cholesterol—Diet and Drugs—Homer Sieber, M.D., William Poe, M.D., and James Wheless, M.D., Roanoke.

Diagnosis and Treatment of Meningiomas—Edgar Weaver, M.D., William Tice, M.D., and John Varner, M.D., Roanoke.

Surgery of Deafness—Houston Bell, M.D., Roanoke.

Glaucoma Detection—Ronald Harris, M.D., Roanoke.

Plastic Reconstruction and Maxillofacial Surgery—Chester E. Horton, M.D., Hugh H. Crawford, M.D., Horace G. Love, M.D., Robert A. Loeffler, M.D., Norfolk.

Premenstrual Tension and Dysmenorrhea—William Bickers, M.D., Richmond.

Peripheral Arterial Insufficiency—Surgical Treatment—Owen Gwathmey, M.D., Richmond.

Surgery of Prostatic Obstruction—T. B. Washington, M.D., William R. Jones, Jr., M.D., Richmond.

Physical Medicine and Rehabilitation Service for the Mentally Ill—Rolf G. Baginsky, M.D., Bedford, Massachusetts.

Basal Cell Tumors—Francis H. McMullan, M.D., Richmond.

Importance of Early Diagnosis of Calvé-Legg-Perthes Disease—Earnest B. Carpenter, M.D., and Douglas O. Powell, M.D., Richmond.

Aortic Insufficiency and Aortitis Associated with Rheumatoid Spondylitis—Elam C. Toone, Jr., M.D., Edwin L. Pierce, M.D., W. Robert Irby, M.D., and Lester F. Belter, M.D., Richmond.

Bone Cysts—Lent C. Johnson, M.D., and Robert G. Kindred, M.D., Charlottesville.

Cancer of the Face and Mouth—Claude C. Coleman, Jr., M.D., Charlottesville.

Physician's Responsibility in Highway Accidents—American Medical Association, Howard Schulz, Chicago, Illinois.

Virginia Association of Medical Assistants.

Anomalies of Medicine—Department of Mental Hygiene and Hospitals, Hiram W. Davis, M.D., Richmond.

Retarded Children Can Be Helped—Virginia Association for Retarded Children, Robert H. Traweck, Richmond.

Problems of Autism in Childhood—Memorial Guidance

Clinic, William M. Lordi, M.D., and Faith F. Gordon, M.D., Richmond.

The Family Doctor's Opportunities in Family Planning—Virginia League for Planned Parenthood, Inc., John M. Nokes, M.D., Charlottesville.

Health Careers Recruitment Committee—Virginia Council on Health and Medical Care, Cynthia W. Warren, R.N., Richmond.

The National Clearing House Program—American Association of Blood Banks, William P. Murphy, Miami, Florida.

Blue Cross - Blue Shield—Thomas L. Martin, and M. C. Green, Richmond.

TECHNICAL EXHIBITS

Technical Exhibits will be located in the Shenandoah Room of the Hotel Roanoke.

Booth No.

1. E. R. SQUIBB AND SONS, New York, New York.
2. A. H. ROBINS COMPANY, INCORPORATED, Richmond.
3. PHYSICIANS PRODUCTS COMPANY, INCORPORATED, Petersburg.
4. DAVIES, ROSE & COMPANY, LIMITED, Boston, Massachusetts.
5. AMERICAN CASUALTY COMPANY, Reading, Pennsylvania.
6. PET MILK COMPANY, St. Louis, Missouri.
7. A. S. ALOE COMPANY, Washington, D. C.
8. ROSS LABORATORIES, Cleveland, Ohio.
9. DOHO CHEMICAL CORPORATION, New York, New York.
10. THE WM. S. MERRELL COMPANY, Cincinnati, Ohio.
11. THE BORDEN COMPANY, New York, New York.
12. GEIGY PHARMACEUTICALS, Yonkers, New York.
13. ROCHE LABORATORIES, Nutley, New Jersey.
14. THE COCA COLA COMPANY, Roanoke, and Atlanta, Georgia.
15. THE VALE CHEMICAL COMPANY, INCORPORATED, Allentown, Pennsylvania.
16. MEDCO PRODUCTS COMPANY, Philadelphia, Pennsylvania.
17. MILEX OF NEW YORK, New York, New York.
18. THE STUART COMPANY, Pasadena, California.
19. THE PURDUE FREDERICK COMPANY, New York, New York.
20. WARNER-CHILCOTT LABORATORIES, Morris Plains, New Jersey.
21. WESTWOOD PHARMACEUTICALS, Buffalo, New York.
22. THE NATIONAL DRUG COMPANY, Philadelphia, Pennsylvania.
23. ORTHO PHARMACEUTICAL CORPORATION, Raritan, New Jersey.
24. W. B. SAUNDERS COMPANY, Philadelphia, Pennsylvania.
25. ZIMMER-BAXTER ASSOCIATES, Charlotte, North Carolina.
26. AYERST LABORATORIES, New York, New York.

Booth No.

27. ELI LILLY AND COMPANY, Indianapolis, Indiana.
28. VAN PELT AND BROWN, INCORPORATED, Richmond.
29. CIBA PHARMACEUTICAL PRODUCTS, Summit, New Jersey.
30. SANDOZ CHEMICAL WORKS, INCORPORATED, Hanover, New Jersey.
31. WM. P. POYTHRESS & COMPANY, INCORPORATED, Richmond.
32. J. B. ROERIG AND COMPANY, New York, New York.
33. RICHMOND SURGICAL SUPPLY COMPANY, Richmond.
34. R. J. REYNOLDS TOBACCO COMPANY, Winston-Salem, North Carolina.
35. BURROUGHS WELLCOME & COMPANY, INCORPORATED, Tuckahoe, New York.
36. KNOLL PHARMACEUTICAL CORPORATION, Raritan, New Jersey.
37. MALTBIE LABORATORIES DIVISION, WALLACE & TIERNAN, INCORPORATED, Belleville, New Jersey.
38. C. B. FLEET COMPANY, INCORPORATED, Lynchburg.
39. ST. PAUL MERCURY INSURANCE COMPANY, St. Paul, Minnesota.
40. JULIUS SCHMID, INCORPORATED, New York, New York.
41. PFIZER LABORATORIES, Brooklyn, New York.
42. AMES COMPANY, INCORPORATED, Elkhart, Indiana.
43. SMITH, KLINE & FRENCH LABORATORIES, Philadelphia, Pennsylvania.
44. PARKE DAVIS & COMPANY, Detroit, Michigan.
45. ABBOTT LABORATORIES, North Chicago, Illinois.
46. SCHERING CORPORATION, Bloomfield, New Jersey.
47. G. D. SEARLE & COMPANY, Chicago, Illinois.
48. THE UPJOHN COMPANY, Kalamazoo, Michigan.
49. LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, New York, New York.
50. U. S. VITAMIN CORPORATION, New York, New York.
51. CHAS. C. HASKELL & COMPANY, INCORPORATED, Richmond.
52. SANBORN COMPANY, Waltham, Massachusetts.
53. MEAD JOHNSON & COMPANY, Evansville, Indiana.
54. THE BAKER LABORATORIES, Cleveland, Ohio.
55. PEOPLES DRUG STORES, Washington, D. C.

Woman's Auxiliary . . .

President-----Mrs. Charles A. Easley, Danville
President-Elect-----Mrs. Walter A. Porter, Hillsville
Vice-Presidents-----Mrs. George K. Brooks, Richmond
 Mrs. James M. Moss, Alexandria
 Mrs. W. A. Eskridge, Parksley
Recording Secretary---Mrs. Robert B. Keeling, South Hill
Corresponding Secretary-----Mrs. J. J. Neal, Danville
Treasurer-----Mrs. Wyndham B. Blanton, Richmond
Publication Chairman---Mrs. Custis L. Coleman, Richmond
Directors-----Mrs. J. R. St. George, Portsmouth
 Mrs. Lee S. Liggan, Irvington
 Mrs. Maynard Emlaw, Richmond

PROGRAM

of the

THIRTY-SEVENTH ANNUAL CONVENTION

Roanoke, Virginia October 4-7, 1959

Headquarters—Hotel Roanoke

A cordial invitation is extended to all members of the Woman's Auxiliary to The Medical Society of Virginia, their guests and the wives of physicians attending the convention to participate in all social functions and attend the general meeting of the Auxiliary.

Information and tickets for the Luncheon will be available at the Registration desk. Luncheon reservations will be closed at 10:00 a.m.

Registration Hours

Sunday, October 4----- 4:00 p.m. to 8:00 p.m.
Monday, October 5-----10:00 a.m. to 4:00 p.m.
Tuesday, October 6----- 9:00 a.m. to 10:30 a.m.

Monday, October 5

9:00 a.m. to 11:00 a.m.—Golf, Roanoke Country Club.
Snack Bar will be open.
9:30 a.m. to 11:30 a.m.—Coffee, Alcove off Writing Room.
2:00 p.m. to 4:00 p.m.—All registered guests invited.
3:00 p.m.—Pre-Convention Board Meeting, Parlor D
Mrs. Charles A. Easley, Jr., President, presiding.
All State Officers, Directors, Committee Chairman, County Presidents and Presidents-Elect are expected to attend.

Tuesday, October 6

9:30 a.m.—Formal Opening of the Thirty-Seventh Annual Convention of the Woman's Auxiliary to The Medical Society of Virginia. Pine Room, Hotel Roanoke
Mrs. Charles A. Easley, Jr., President, presiding.
Invocation—Mrs. Hawes Campbell, Convention Chaplain
Pledge of Loyalty:
I pledge my loyalty to the Woman's Auxiliary to the American Medical Association. I will support its activities, protect its reputation and ever sustain its high ideals.

Address of Welcome—Mrs. Alexander McCausland, Wife of President of the Roanoke Academy of Medicine.

Response—Mrs. Fred Delp, President, Woman's Auxiliary to the Southwestern Medical Society.

Convention Announcements—Mrs. Charles D. Smith, Co-Chairman of Arrangements.

Roll Call of Auxiliaries—Mrs. Robert Keeling, Recording Secretary.

Minutes of the Thirty-Sixth Annual Convention—Mrs. Keeling.

Introduction of Honored Guests—Mrs. Charles L. Goodhand of Parkersburg, West Virginia, Vice-President of the Woman's Auxiliary to the American Medical Association; Mrs. George W. Owen, Jackson, Mississippi, President of the Woman's Auxiliary to the Southern Medical Association.

Presentation of the President of The Medical Society of Virginia, Dr. Walter P. Adams.

Greetings—Dr. Adams.

In Memoriam—Mrs. Henry R. Bourne.

Remarks by the President and Recognition of State Officers and Committee Chairmen. Mrs. Charles A. Easley, Jr.

Report of the Credentials Chairman—Mrs. Rufus P. Ellett, Jr.

Report of Treasurer—Mrs. Wyndham B. Blanton, Jr.

Courtesy Resolutions—Mrs. James M. Moss.

Unfinished Business

New Business

Recommendations from the Board

Report of the Nominating Committee—Mrs. Arthur H. Taylor

Election of Officers

Report of Delegates to the Woman's Auxiliary to the American Medical Association—Mrs. Gerald Fisher, Chairman

Guest Speakers—Mrs. Charles L. Goodhand, Vice-President of the Woman's Auxiliary to the American Medical Association. Mrs. George W. Owen, President of the Woman's Auxiliary to the Southern Medical Association.

Adjournment

12:30 p.m.—Inaugural Luncheon—Shenandoah Club

Mrs. Charles A. Easley, Jr., presiding

Invocation—Mrs. Hawes Campbell

Presentation of Honored Guests

Luncheon

Installation of Officers—Mrs. Charles L. Goodhand

Presentation of President's Pin—Mrs. Charles A. Easley, Jr.

Presentation of Past-President's Pin—Mrs. John R. St. George

Inaugural Remarks—Mrs. Walter A. Porter

Convention Acknowledgments—Mrs. William H. Kaufman

Fashions by Heironimus

Adjournment

3:30 p.m.—Post-Convention Board Meeting—Mrs. Walter A. Porter, President, presiding—Pine Room
All new State Officers, Directors, Committee Chairmen, County Presidents and Presidents-Elect are expected to attend

Wednesday, October 7

8:30 a.m.—Past-Presidents Breakfast—Mrs. John R. St. George, Chairman

Committee on Arrangements

General Chairman—Mrs. William H. Kaufman

Co-Chairman—Mrs. Charles D. Smith

Registration—Mrs. Rufus P. Ellett, Jr.

Mrs. Charles L. Crockett, Jr.

Secretary-Treasurer—Mrs. W. R. Whitman, Jr.

Hospitality—Mrs. Charles B. Bray, Jr.

Mrs. C. T. Burton

Printing—Mrs. Robert F. Bondurant

Mrs. Richard R. Chamberlain

Press and Publicity—Mrs. M. A. Johnson, III

Mrs. J. O. Boyd, Jr.

Entertainment—Mrs. Philip C. Trout

Mrs. Edgar N. Weaver

Decorations—Mrs. Fred E. Hamlin

Mrs. Homer A. Sieber

Coffee—Mrs. Garrett G. Gooch, III

Mrs. W. Conrad Stone

Luncheon—Mrs. John T. Walke

Mrs. John A. Martin

Golf—Mrs. J. E. George

Mrs. William F. Hatcher

Invitations—Mrs. James C. Gale

Mrs. Henry T. Brobst

Pages—Mrs. William H. Robison

Mrs. George W. Hurt

Exhibits—Mrs. Richard S. Owens

Mrs. Algie C. Davis

Mrs. Earl B. Morgan

Time Keeper—Mrs. F. C. Bedsaul

Paper Test Shows Antibiotic Effectiveness

A piece of paper that turns red under certain situations can now be used by doctors to decide what antibiotic to give for an infection. The simple test involves the use of filter paper impregnated with a chemical that turns the paper red when bacteria grow on it. It is described in the July 25th Journal of the American Medical Association.

The test works this way: The filter paper is divided into several areas. Small quantities of individual antibiotics are placed in each division. Then the paper is swabbed with infectious material taken from the patient. The paper is sealed in a plastic bag and heated. If an antibiotic inhibits the growth of the bacteria causing the infection, the paper remains white. But if an antibiotic does not work against the bacteria, the bacteria grow and the paper turns red.

The doctor then knows that the drug to give the patient is the one that keeps the paper white. The time required for the test depends on the number of organisms in the infectious material, but it usually ranges from three to 12 hours.

According to the authors of the article—Wayne L. Ryan, Ph.D., Howard J. Igel, B.S., and Perry T. Williams, M.D., Omaha—the test is simple and rapid enough to be used in a doctor's office, where

the majority of patients with infections are treated.

The bacteria-inhibiting abilities of antibiotics are regularly tested in hospital laboratories by the use of test tube and agar plate tests, but these are time consuming, complicated, and expensive.

The authors feel that their test is easy to read, accurate, convenient, and relatively inexpensive.

The test was used in 100 cases of frank or suspected bacterial infections in a normal office practice. Infections included boils, tonsillitis, abscesses, sinusitis, urinary tract infections, and several others.

In 76 cases, antibiotic treatment was initiated on the basis of experience before the results of the sensitivity test were available. Treatment in the remaining 24 cases was begun after the tests were completed.

Of the 76 given immediate treatment, only 23 showed sufficient improvement within two days to warrant continuation of the first antibiotic. Fifty-three were changed to the drugs indicated by the test paper and began improving.

Of the 24 patients treated after the tests were run, 14 showed excellent to good results from the drugs indicated by the test paper. In the other 10, the test papers showed no bacterial growth, apparently because the infections were not caused by bacteria.

Dr. Shannon and the University

ON AUGUST 22ND, Dr. Edgar F. Shannon, Jr., took office as the fourth President of the University of Virginia. It doubtless will come as a surprise to some that an institution founded in 1819 should have only three former presidents. Prior to the inauguration of Dr. Edwin A. Alderman in 1904, the University had been administered by chairmen chosen annually from the faculty who served an average of five years. Dr. Paul B. Barringer, one of Virginia's outstanding physicians and educators, had been Chairman for a number of years prior to the appointment of Dr. Alderman. Despite the ability of the chairmen and the fact that the system, which had found some favor in Europe, was proposed by Jefferson, the method proved unwieldy and was finally discarded.

The selection of a president at the University should be a matter of interest to everyone concerned with medical education in Virginia. Dr. Alderman's interest in medicine as "the most practical of all professions and the most necessary of all arts" was reflected in the great strides made by the Medical School during his presidency. Some presidents learn earlier than others that medical education is costly business. Dr. Shannon, fortunately, is a career educator who doubtless will realize and appreciate why it costs twice as much to train a medical students as it does to educate an engineer and four times as much as is required to produce a law graduate at the University. Unless this basic fact is understood the Medical School will suffer.

It is reassuring that Dr. Shannon has both youth and a keen understanding of the undergraduate mind, for this should result in the establishment of an early rapport with the student body which will be mutually helpful. Friends of the University, and they are many, have regretted the unfavorable and often unnecessary publicity that has emanated from Charlottesville in recent years. They hope that the news releases in the future will deal largely with academic achievements on the part of the student body, outstanding contributions in the realms of scholarship and science by members of the faculty, and if it is not too much to ask, perhaps an occasional win on the football field.

The opportunity is there, President Shannon, and we wish you well.

HARRY J. WARTHEN, M.D.

News Notes

New Members.

The following new members have been admitted into The Medical Society of Virginia since the list published in the August issue of the Monthly:

Kenneth William Berger, M.D., Falls Church
Robert A. Orr, M.D., Leesburg
Marvin Que Sanner, M.D., Alexandria
Wesley Graham Stephens, M.D., Troutville
Earl Edward Virts, Jr., M.D., Leesburg

Social Security Panel.

On Wednesday morning, October 7th, at the annual meeting of The Medical Society of Virginia in Roanoke, there will be a panel discussion on Social Security. As this is a subject of importance to all doctors, it is hoped there will be a large attendance. In order to allow this session to progress with ease, it is suggested that members who may have questions to be answered send them before the meeting to the Executive Secretary-Treasurer, Robert I. Howard, 4205 Dover Road, Richmond 21. If you have a question or questions, don't delay—send them at once!

The Mid-Tidewater Medical Society

Met in Tappahannock on July 28th. The following scientific program was presented: The Present Status of Surgery of the Lung, Esophagus and Great Vessels by Dr. Owen Gwathmey, Richmond; and Newer Methods of Diagnosis in Thyroid Disease by Dr. William S. Dingleline, Richmond.

American College of Chest Physicians.

The Virginia Chapter of the College will meet at the Hotel Roanoke, October 4th at 2:00 P.M. The following program will be presented:

Diseases of the Esophagus—W. C. Sealy, M.D., Professor of Thoracic Surgery, Duke University, Durham, North Carolina.

Evaluation of Pulmonary Function—John L. Guerrant, M.D., Director Pulmonary Function Laboratory, Department of Internal Medicine, University of Virginia.

Presentation—Three Cases of Pulmonary Disease Presumably Due to Atypical Acid-Fast Bacilli—L. R. Broome, M.D., Catawba Sanatorium.

Dr. Bohannon Honored.

Dr. Alvah P. Bohannon of Virgilina was recently honored by some 500 residents of his town. The Ruritan Club sponsored a reception and picnic to which the entire community was invited. Dr. Bohannon has practiced in this community for fifty-two years.

This occasion was also to introduce to the community Dr. Henry Poore who has recently located at Virgilina.

Dr. Davis Retires.

Dr. Henry E. Davis, Williamsburg, has retired from active service at the Eastern State Hospital. He was honored by hospital employees at a reception and presented with a wrist watch in token of their esteem.

New Medical Center.

Construction of the medical center at Dinwiddie Courthouse is scheduled to be completed in September. The one-story building contains a clinic and a drug store. The clinic has an emergency room, four examination rooms, two consultation rooms, a waiting room, an x-ray room and a laboratory. It will be manned by Dr. Robert S. Smith who is already located there and Dr. Charles C. Ashby who is now serving in the U. S. Air Force.

Dr. and Mrs. Chester D. Bradley

Have returned from a two-month vacation in Europe. They visited France, Luxembourg, Germany and Holland.

Dr. Bradley was until recently located in Newport News but is now in Williamsburg.

Dr. Carol Rice,

Sweetbriar College physician, won the qualifying medal in the second annual Virginia Senior Women's Golf Tournament. She posted 90 in the 18-hole competition at the Lakeside Country Club in Richmond.

National Cancer Conference.

The fourth National Cancer Conference, sponsored by the American Cancer Society and the National Cancer Institute will be held in Minneapolis, Min-

nesota, September 13-15, 1960. The theme will be Changing Concepts Concerning Cancer. For further information write Medical Affairs Department, American Cancer Society, 521 West 57th Street, New York 19.

Dr. John W. Massey, Jr.,

Newport News, has been elected president of the Peninsula Heart Association's Board of Directors.

Dr. Ronald B. Harris,

Gill Memorial Eye, Ear and Throat Hospital,

Roanoke, has been certified by the American Board of Ophthalmology.

Wanted.

One male psychiatrist, under 50 years, Diplomate or Board eligible, to direct privately operated outpatient clinic in Charleston, West Virginia. Salary: \$20,000 to \$25,000 per annum. Write Box 165, care the Virginia Medical Monthly, 4205 Dover Road, Richmond 21, Virginia. (Adv.)

Obituaries

Dr. William Edward Bray,

Prominent physician of Charlottesville, died following a heart attack on July 18th. He was seventy-seven years of age and received his medical degree from the University of Virginia in 1912. Except for one year, Dr. Bray had served at the University since his graduation until his retirement. He was director of the clinical laboratories which he organized in 1922. He was partly responsible for the establishment of the department of pathology and the allergy division. Dr. Bray was the author of a widely used manual of clinical laboratory methods. He was a diplomate of the American Board of Pathology and a founding fellow of the College of American Pathologists. Dr. Bray had been a member of The Medical Society of Virginia since 1918.

His wife and two sons survive him. His sons are Dr. W. E. Bray, Jr., of Huntington, W. Va., and Dr. Maurice Miller Bray of Suffolk.

Dr. Mead Stith Brent,

Formerly superintendent of Central State Hospital, Petersburg, died July 20th. He was seventy-seven years of age and a graduate of the Medical

College of Virginia in 1908. Dr. Brent had served at Central State since 1909 and retired in 1955, moving to his family home in Heathsville. He was an associate professor of mental diseases at the Medical College of Virginia for a number of years and served on the Governor's Advisory Board on Mental Hygiene. Dr. Brent was a Fifty-Year Member of The Medical Society of Virginia, having joined in 1909.

A sister survives him.

Dr. Cullen Samuel Pitt,

Physician at the University of Richmond for forty-four years, died in his sleep on July 10th. He was seventy-nine years of age and graduated from the former University College of Medicine, Richmond, in 1905. Dr. Pitt served as medical director of the Atlantic Life Insurance Company and the Mutual Life Insurance Company. He served as physician for the University of Richmond from 1914 to 1958. A portrait was presented to the school by the alumni on his retirement. He continued to work as physician to the University's athletic association. Dr. Pitt had been a member of The Medical Society of Virginia since 1940.

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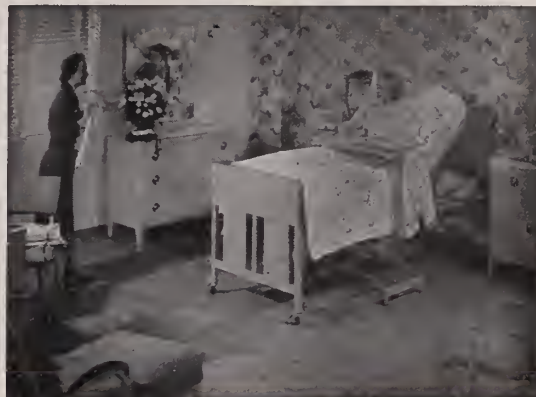


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The State Board of Medical Examiners of Virginia

The next meeting of the Virginia Board of Medical Examiners will be held at the Richmond Hotel, Richmond, Virginia, December 1, 1959. The examinations will be held at the Hotel, December 2-4, inclusive. All applications and other documents pertaining to the examinations or to matters to be discussed by the Board must be on file in the Secretary's office on or before November 10, 1959. The Secretary of the Board is Dr. K. D. Graves, 631 First Street, S. W., Roanoke, Virginia.

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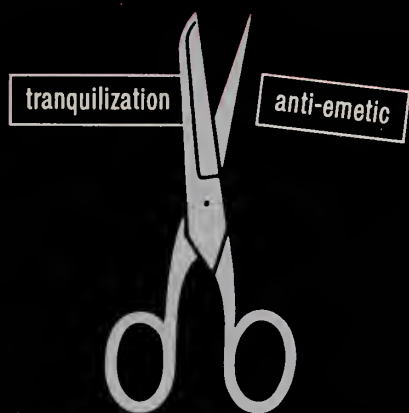
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"Thioridazine [MELLARIL] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines. . . . This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."¹



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"Side effects were negligible at all dosage levels; no incidence of parkinsonism or other extrapyramidal symptoms. Minimal sedation, on the whole lower than with other tranquilizing agents. No alteration in liver function, urine or blood. No photosensitivity. Patient acceptability was exceptional: lack of drowsiness, lethargy or 'washed out' feeling, permitted patients to carry on normal everyday activities. Orthostatic hypotension was absent. The initial 'keyed up' tense feeling common to other drugs of this type was absent....Patients forced to interrupt treatment with other phenothiazine derivatives because of parkinsonism or other extrapyramidal symptoms were able to continue therapy with thioridazine without appearance of parkinsonism."³

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"The extrapyramidal syndrome was not encountered in

any of its forms. Dizziness and sleepiness responded to a reduction in dosage. Other side effects did not occur....It is singularly free from the side effects ordinarily seen with these [phenothiazine] compounds."⁴

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"None of the following toxic effects, so common after administration of the phenothiazines, was present during the period of Thioridazine administration: Parkinsonism or Parkinson-like symptoms, photosensitivity, orthostatic hypotension, bone-marrow depression."¹

MINIMAL SIDE EFFECTS

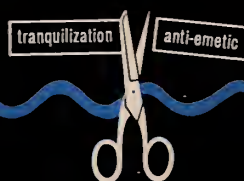
"Side effects such as extrapyramidal activity, jaundice and photosensitivity have not been observed in patients treated with Thioridazine [Mellaril]. Extrapyramidal side effects produced by other phenothiazines have disappeared promptly with no deterioration in the behavioral response when these patients have been shifted to Thioridazine."⁵

NO JAUNDICE

"No allergic reactions were observed such as skin eruptions, jaundice or agranulocytosis. Central nervous system toxicity, as manifested by extrapyramidal effects, seizures, and excitement did not occur despite the use of high doses (up to 2000 mg.) of the drug."⁶

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EXTREMELY SATISFACTORY "... produced extremely satisfactory results in the broad therapeutic range represented in this series."³

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in a clinical spectrum ranging from
minor nervous disorders to
severe psychotic disturbances³

RESULTS WITH MELLARIL IN 194 PATIENTS³

ACUTE PSYCHOTICS

83% satisfactory effect

Some cases had complete remission of symptoms. Most were able to return home to useful occupations.

CHRONIC PSYCHOTICS

68% satisfactory effect

Relief of symptoms in cases permitted easier management and a return to a more or less useful life.

NEUROTICS

57% satisfactory effect

Some cases, complete relief of symptoms. Other cases, partial relief of symptoms.

RESULTS WITH MELLARIL IN PATIENTS PREVIOUSLY TREATED WITH OTHER TRANQUILIZERS³

DIAGNOSTIC CATEGORY	IMPROVED %	VERY SATISFACTORY %	SATISFACTORY %	UNSATISFACTORY %
SCHIZOPHRENIA				
Acute	89	61	28	11
Chronic paranoid	84.2	31.6	52.6	15.8
Chronic, other	73.9	21.7	52.2	26.1
Residual	57.1	9.5	47.6	42.9
CHRONIC BRAIN SYNDROME	66.6	33.3	33.3	33.3
CHRONIC PSYCHONEUROSIS	62.5	12.5	50	37.5
CHRONIC PSYCHOSOMATIC DISORDERS	75	25	50	25

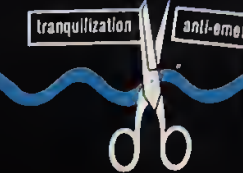
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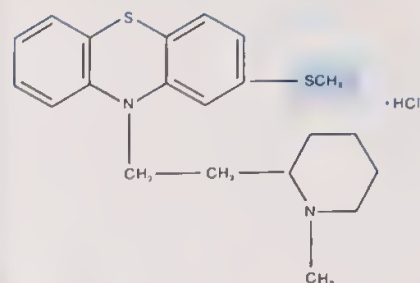


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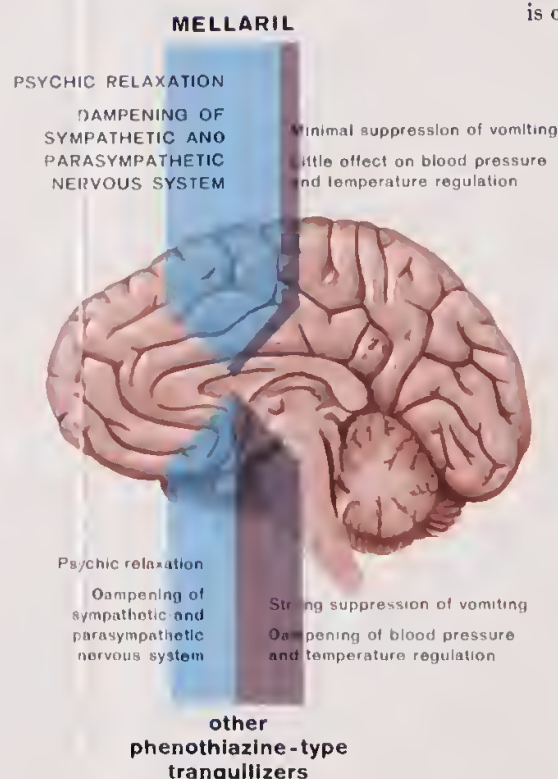


a new advance in tranquilization:
greater specificity of tranquilizing action plus fewer side effects



Of 109 phenothiazines synthesized by Sandoz, Mellaril was selected as the most promising on the basis of extensive evaluation. The presence of a thiomethyl radical ($S\cdot CH_3$) in the position conventionally occupied by a halogen in other phenothiazines is unique and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:

- 1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.



- 2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.
- 3 A notable absence of extrapyramidal stimulation.
- 4 Lack of impairment of patient's normal drive and energy, while achieving psychomotor control in mental and emotional disorders.
- 5 Virtual freedom from toxic effects — jaundice, photosensitivity, skin eruptions, disturbed body temperature regulation, blood forming disorders have been absent in reports currently available.

These properties add up to a greater margin of safety in general office practice, in ambulatory psychiatric out-patient clinics, and in hospitalized patients.

a guide to administration and dosage

Dosage ranges from 10 mg. three or four times a day in milder situations to 25 mg. three or four times a day for more disturbed patients. In ambulatory psychiatric out-patients, dosages of 50 to 100 mg. three or four times a day have been found adequate. For severely dis-

turbed hospitalized psychotics, dosages of 200 to 300 mg. three times a day may be administered.

Dosage must be individualized according to the condition and degree of response. In all cases, the smallest effective dosage should be determined for each patient.

INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANGE
ADULTS		
Mental and Emotional Disturbances:		
MILD — where anxiety, apprehension and tension are present	10 mg. t.i.d.	20-60 mg.
MODERATE — where agitation exists in psychoneurosis, alcoholism, intractable pain, senility, etc.	25 mg. t.i.d.	50-200 mg.
SEVERE — in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.:		
Ambulatory	100 mg. t.i.d.	200-400 mg.
Hospitalized	100 mg. t.i.d.	200-800 mg.
CHILDREN		
BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.

PRECAUTIONS: Although possessing a unique structure and a selectivity of action which broadens its therapeutic ratio, the physician should be alert to the possibility of untoward reactions in certain susceptible individuals. In

particular, he should watch for potential hemopoietic depression, jaundice or orthostatic hypotension. As with other phenothiazines, Mellaril is contraindicated in severely depressed or comatose states from any cause.

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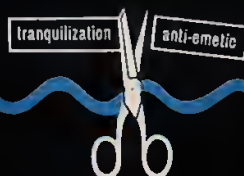
1. Ostfeld, A. M.: Scientific Exhibit, American Academy of General Practice, San Francisco, April 6-9, 1959. 2. Kinross-Wright, V. J.: Lecture, Clinical Meeting, American Medical Association, Minneapolis, Dec. 4, 1958. 3. Kinross-Wright, V. J.: Scientific Exhibit, Clinical Meeting, American Medical Association, Minneapolis, Dec. 2-5, 1958. 4. Cohen, S.: TP-21, a new phenothiazine, Am. J. Psychiat. 115:358, Oct. 1958. 5. Glueck, B.: Scientific Exhibit, American Psychiatric Association, Philadelphia, April 27-May 1, 1959. 6. Hollister, L. E., and Macdonald, B. F.: Presented at California Medical Association; Section on Psychiatry, San Francisco, Feb. 25, 1959. 7. Remy, M.: Schweiz. med. Wchnschr. 88:1221, Nov. 29, 1958. 8. Freed, S. C., in discussion on Thioridazine (Mellaril) in Psychiatric Patients, Hollister, L. E., and Macdonald, B. F., presented at California Medical Association; Section on Psychiatry, San Francisco, Feb. 25, 1959.

- controls neurotic and psychotic patients with anxiety, apprehension, nervous tension
- virtual absence of jaundice, parkinsonism, photosensitivity, dermatitis
- minimal sedation and drowsiness
- does not mask organic conditions such as brain tumors, intestinal obstruction, etc., because of lack of anti-emetic action
- increased specificity of action results in greater safety at all dosage levels



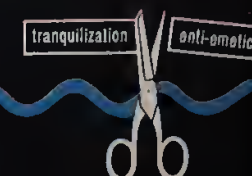
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THIORIDAZINE HCl

specific, effective tranquilizer • safer at all dosage levels



Mellaril®
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specific, effective tranquilizer • safer at all dosage levels





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JUST ONE TABLET DAILY

provides therapeutic levels . . . for 24 hours . . .
with low incidence of sensitivity reactions . . .

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Sulfamethoxypyridazine Lederle

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1. Hodges, F. T.:
GP 14:86, Nov., 1956.

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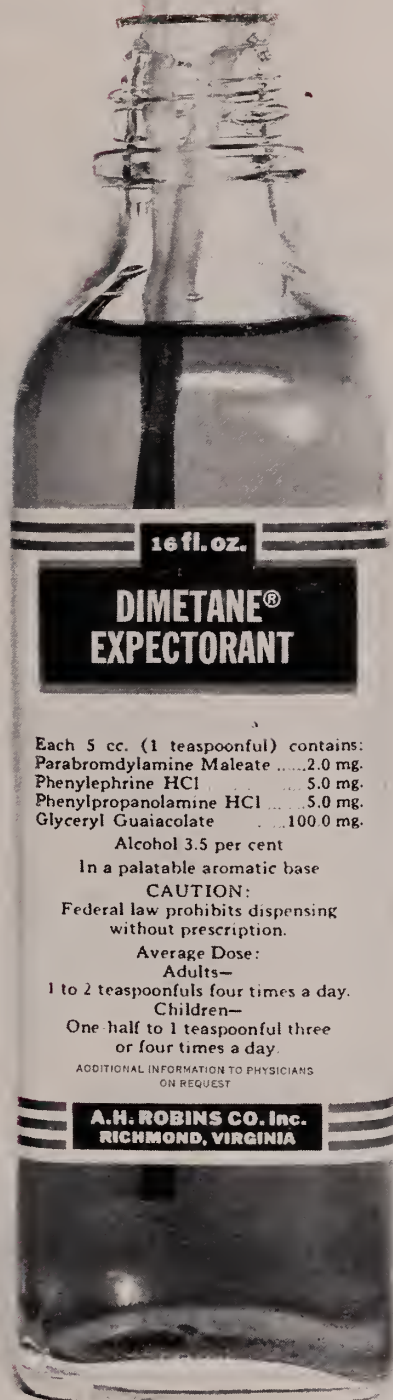
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new
for
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tastes
good

works
better

the straws just symbolize the good flavor! And DIMETANE EXPECTORANT for cough is as effective as it is delicious. FORMULA: each 5 cc. (1 teaspoonful) contains: DIMETANE (Parabromdylamine Maleate) 2.0 mg.; Glyceryl Guaiacolate 100.0 mg.; Phenylephrine Hydrochloride, USP 5.0 mg.; Phenylpropanolamine Hydrochloride, NNR 5.0 mg.; Alcohol 3.5% in a good-tasting aromatic base.



combines the unsurpassed antihistamine Dimetane with the clinically proven expectorant glyceryl guaiacolate (which increases R.T.F. almost 200%) and two recognized decongestants. When additional cough suppressant action is indicated, prescribe DIMETANE EXPECTORANT-DC, which provides the basic formula with dihydrocodeinone bitartrate 1.8 mg. per 5 cc. (exempt narcotic).

Dimetane® Expectorant
Dimetane® Expectorant-DC

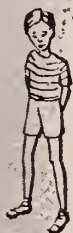


(WITH DIHYDROCODEINONE BITARTRATE 1.8 MG./5CC.)



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Convalescence



Adolescence



Infant diarrhea



Debilitating
gastrointestinal
conditions



Postoperatively

Whenever
the diet is faulty,
the appetite poor,
or the loss of food
is excessive

*through vomiting
or diarrhea—*

Valentine's MEAT EXTRACT

stimulates the appetite,
increases the flow of
digestive juices,

provides: supplementary
amounts of vitamins, minerals
and soluble proteins,
extra-dietary vitamin B₁₂,
protective quantities of
potassium, in a palatable and
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Supplied in bottles of 2 or 6 fluidounces.

DOSAGE is 1 teaspoonful two or three times
daily; two or three times this amount for
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RASPBERRY FLAVOR

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- Curbs excessive peristalsis
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Sulfaguanidine 2 Gm.
Pectin 225 mg.
Kaolin 3 Gm.
Opium tincture 0.08 cc.
(equivalent to 2 cc. paregic)

SUPPLIED:

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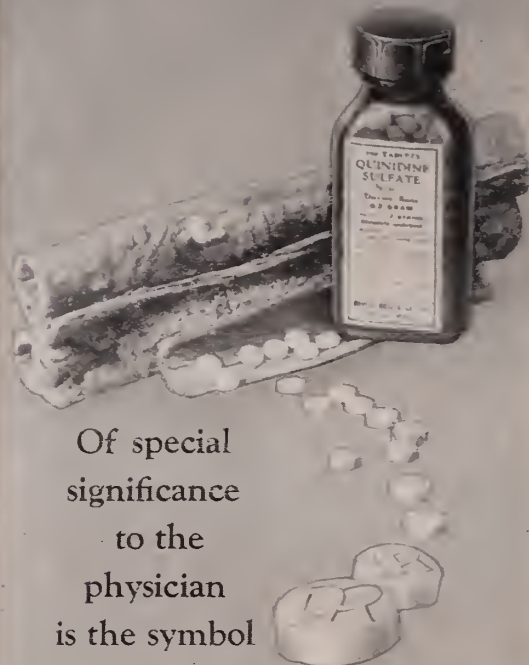
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DOSAGE:

ADULTS: Initially 1 or 2 tablespoons from four to six times daily, or 1 or 2 teaspoons after each loose bowel movement; reduce dosage as diarrhea subsides.

CHILDREN: $\frac{1}{2}$ teaspoon (=2.5 cc.) per 15 lb. of body weight every four hours day and night until stools are reduced to five daily, then every eight hours for three days.



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(phenylpropanolamine HCl 25 mg.
pheniramine maleate 12.5 mg.
pyrilamine maleate 12.5 mg.)

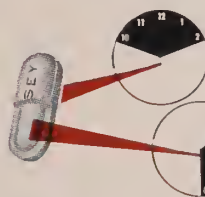
Dormethan
(brand of dextromethorphan HBr) 30 mg.
Terpin hydrate 180 mg.
APAP (N-acetyl-p-aminophenol) 325 mg.

References: 1. Lhotka, F. M.: Illinois M. J. 112:259
(Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460
(July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.)
1958. 4. Bonica, J. J.: in Drugs of Choice, Mosby, St.
Louis, 1958, p. 272. 5. Dascomb, H. E.: in Current
Therapy, Saunders, Phila., 1958, p.78. 6. Bickerman, H.
A.: in Drugs of Choice, Mosby, St. Louis, 1958, p.547.

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Dosage: One tablet in the morning, midafternoon
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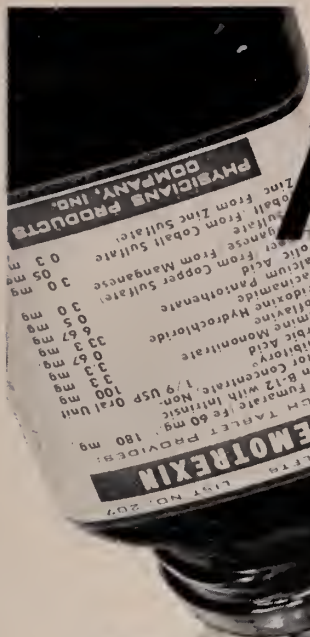
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for all treatable secondary
anemias...especially when
accompanied by **STRESS!**

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COMBINED WITH THE
STRESS FORMULA
VITAMINS**

FORMULA	EACH TABLET	PROVIDED IN THREE TABLETS A DAY	NATIONAL RESEARCH COUNCIL STRESS FORMULA RECOMMENDATIONS
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Vitamin B-12 with Intrinsic Factor Concentrate, Non-Inhibitory	1/9 USP Oral Unit	1/3 USP Oral Unit (5 mcg. B-12)	4 mcg. B-12
Ascorbic Acid	100 mg.	300 mg.	300 mg.
Thiamine Mononitrate (B-1)	3.3 mg.	10 mg.	10 mg.
Riboflavin (B-2)	3.3 mg.	10 mg.	10 mg.
Pyridoxine Hydrochloride (B-6)	0.67 mg.	2.0 mg.	2.0 mg.
Niacinamide	33.3 mg.	100 mg.	100 mg.
Calcium Pantothenate	6.67 mg.	20 mg.	20 mg.
Folic Acid	0.5 mg.	1.5 mg.	1.5 mg.
Copper (From Copper Sulfate)	3.0 mg.	9.0 mg.	
Manganese (From Mn Sulfate)	3.0 mg.	9.0 mg.	
Cobalt (From Cobalt Sulfate)	0.05 mg.	0.15 mg.	
Zinc (From Zinc Sulfate)	0.3 mg.	0.9 mg.	

A unique new-
type formula to
provide a broad new
concept in the
treatment of
anemias, in
convalescence, and
in the prevention
and treatment of
nutritional
deficiencies . . .

DOSAGE

ADULTS, one tablet three times daily
after meals. CHILDREN, one to three tab-
lets daily according to age.

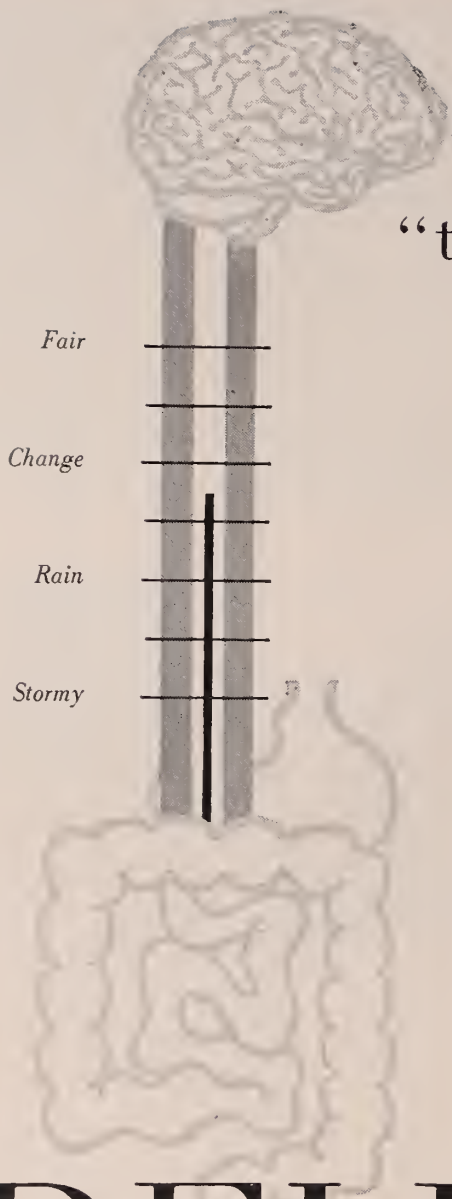
INDICATIONS

All treatable secondary anemias, especially when accom-
panied by *stress conditions*, as in anemias of pregnancy,
convalescence, adolescence, post-infection anemias,
anemias following drug therapy, and in the prevention
and treatment of nutritional deficiencies.



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is the
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of the mind...”

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soothes the agitated mind
and calms the G-I spasm
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of phenobarbital and the
synergistic action of
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just can’t
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“Little mother, just
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BONADOXIN®
tablet stops morning sickness
(you take it at bedtime)”



The formula tells why BONADOXIN quickly stops nausea and vomiting of pregnancy in 9 out of 10 cases.* Each tiny BONADOXIN tablet contains: Meclizine HCl (25 mg.) for antinauseant action / Pyridoxine HCl (50 mg.) for metabolic replacement. More than 60,000,000 tablets prescribed and taken. Toxicity low, tolerance excellent. In bottles of 25 and 100. Usual dose: one tablet at bedtime; severe cases may require another on arising. See PDR, p. 779.

BONADOXIN also effectively relieves nausea and vomiting associated with: anesthesia, radiation sickness, Meniere's syndrome, labyrinthitis, cerebral arteriosclerosis and motion sickness.

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For infant colic, try antispasmodic BONADOXIN Drops... stop colic in 7 out of 8 cases.*

Each cc. contains:
Meclizine 8.33 mg. / Pyridoxine 16.67 mg.

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*Bibliography available on request.



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helping the hypertensive to help himself...

THEOMINAL[®] R.S.

(Theominal with *Rauwolfia serpentina*)

- Gradual but sustained reduction of blood pressure
- Mild bradycardic action
- Alleviation of congestive headache, vertigo, dyspnea
- Relief from anxiety, excitability, insomnia
- Sense of well-being

Theobromine	320 mg.
Luminal [®]	10 mg.
Rauwolfia serpentina alkaloids (alseroxylon)	1.5 mg.*

DOSAGE: The usual dose of Theominal R.S. is 1 tablet two or three times daily. When improvement has been maintained for a time, the dose may be reduced or medication suspended occasionally until resumption is indicated.

SUPPLIED: Bottles of 100 and 500 tablets.

* = 0.3 mg. reserpine in activity

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Theominal and Luminal (brand of phenobarbital),
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If one . . . or all . . . needs nutritional support . . .



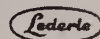
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For Complete Formula see PDR (Physicians' Desk Reference), page 689

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when it's skin deep
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(brand of lidocaine*)

2.5% & 5%

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to prevent the
sequelae of u.r.i.
...and relieve the
symptom complex

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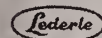
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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933.

it
started
as a
"cold"...



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A meal of even the most colorful and the most meticulously prepared food can be dreary eating without salt.

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“Salt-Free” (Low Sodium) Diets

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*Assures patient's
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*Contains potassium chloride,
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2 oz. shakers and
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see
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Potassium Penicillin V

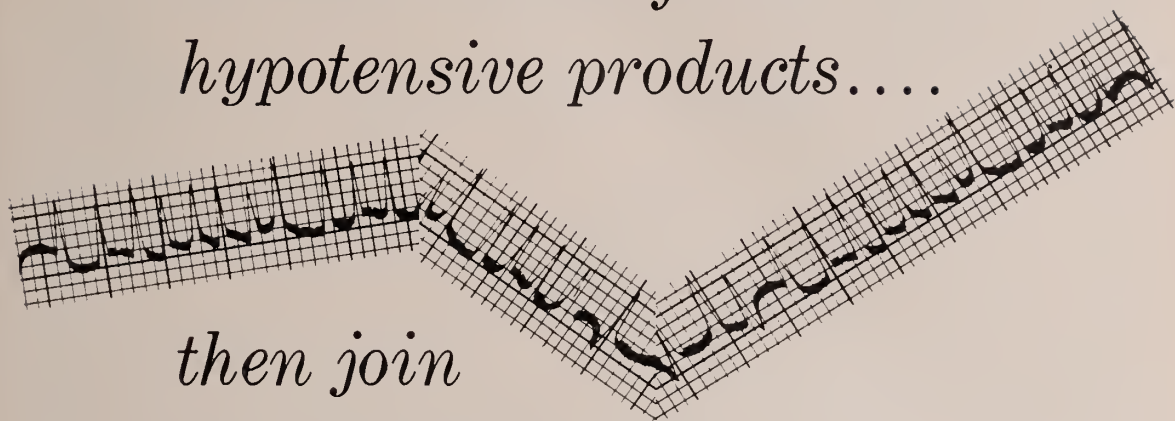
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Supplied: Compocillin-VK Filmtabs, 125 mg. (200,000 units), bottles of 50 and 100; 250 mg. (400,000 units), bottles of 25 and 100. Compocillin-VK Granules for Oral Solution come in 40-cc. and 80-cc. bottles. When reconstituted, each 5-cc. teaspoonful represents 125 mg. (200,000 units) of potassium penicillin V.



in tiny, easy-to-swallow Filmtabs® in tasty, cherry-flavored Oral Solution

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are disappointed in
the multitude of new
hypotensive products....*



*then join
the many doctors
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reliable, time-proven,
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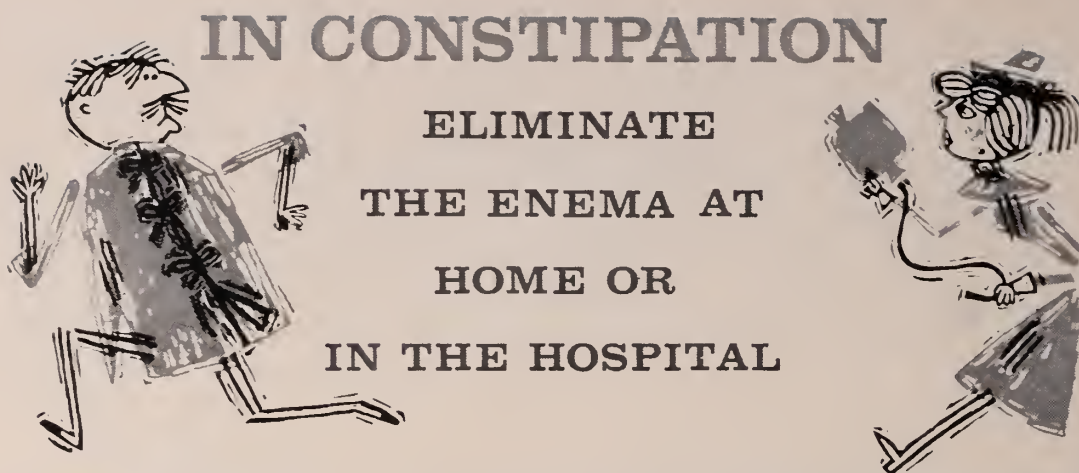
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PAGE 825



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ELIMINATE
THE ENEMA AT
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"The effectiveness of the senna preparation ['Senokot'] in reducing the need for enemas...is clearly apparent..."

Kasdon, S. C., Morentin, B. O.: J. Internat. Coll. Surgeons 31:455 (Apr.) 1959.

...time and time again, gentle, natural acting 'Senokot' is cited in clinical reports as the therapy of choice in all patients with acute or chronic constipation.

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in bronchial asthma*

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Oral Suspension — 25 mg. per teaspoonful (5 cc.); 1 pint bottles.

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stops vertigo



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Nicotinic acid (50 mg.)—the drug of choice for prompt vasodilation.^{1,3}

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Dosage: One tablet before each meal.

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References: 1. Menger, H. C.: Clin. Med. 4:313 (March) 1957. 2. Charles, C. M.: Geriatrics 2:110 (March) 1956. 3. Shuster, B. H.: M. Clin. North America 40:1787 (Nov.) 1956. 4. Dolowitz, D. A.: Rocky Mountain M. J. 55:53 (Oct.) 1958.



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with
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nutritional
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with ferric pyrophosphate,
a form of iron
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Iron (as Ferric Pyrophosphate) 30 mg.
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Alcohol75%
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vaginal douche powder

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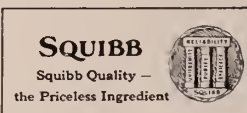
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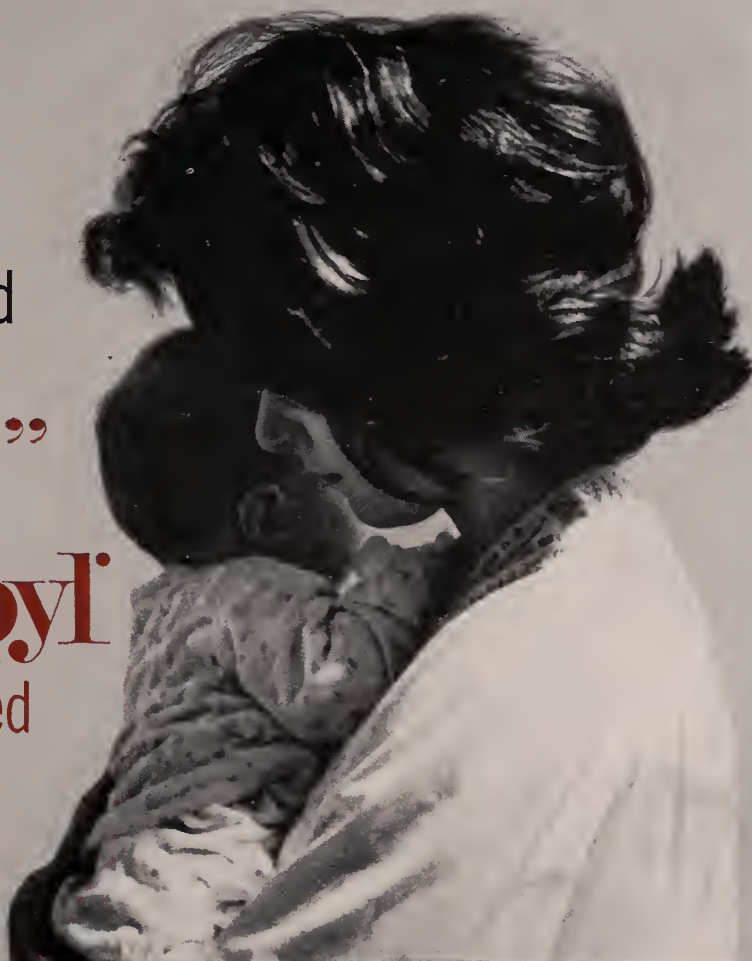
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and open stuffed noses orally

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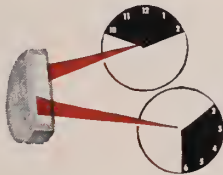
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minutes, lasts for hours*



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References: 1. Lhotka, F. M.: Illinois M. J. 112: 259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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For arthritic M.S.:
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benefits from new
Gammacorten^{T.M.}



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(dexamethasone CIBA)

- potent, effective corticosteroid
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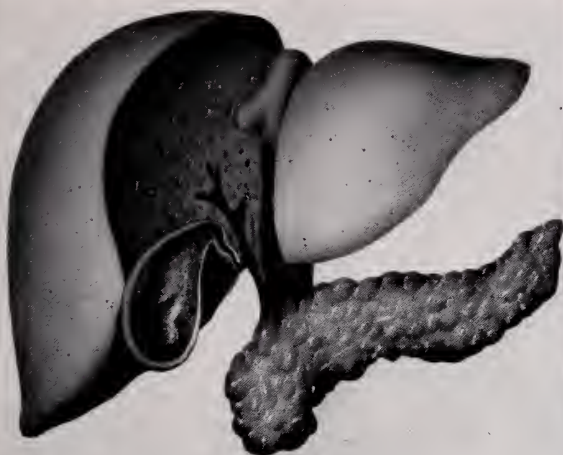
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Biliary Tract
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85:1081, 1957.

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for control of grand mal and psychomotor seizures

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bibliography: (1) Green, J. R., & Steelmon, H. F.: *Epileptic Seizures*, Baltimore, Williams & Wilkins Company, 1956, p. 136. (2) Brody, P. F.: *Pediatrics* 23:151, 1959. (3) Davidson, D. T., Jr., in Cann, H. F.: *Current Therapy 1959*, Philadelphia, W. B. Saunders Company, 1959, p. 512. (4) Smith, B., & Forster, F. M.: *Neurology* 4:137, 1954. (5) Zimmermon, F. T.: *New York J. Med.* 55:2338, 1955. (6) Lemere, F.: *Northwest Med.* 53:482, 1954. (7) Perlstein, M. A.: *Pediatr. Clin. North America* 4:1079 (Nov.) 1957. (8) Livingston, S., & Pauli, L.: *Pediatrics* 19:614, 1957. (9) Corter, C. H., & Moley, M. C.: *Neurology* 7:483, 1957. (10) Keith, H. M., & Rushon, J. G.: *Proc. Staff Meet. Mayo Clin.* 33:105, 1958.



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1. Boland, E. W., and Headley, N. E.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

2. Bunim, J. J., et al.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

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Meta Cine is promoted exclusively to the medical profession, and recommends itself as your preparation of choice for patients who might otherwise indulge in unsupervised self-medication with potentially damaging nonphysiologic douches.

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of Choline Salicylate.

1. Clark, G.M.: Personal Communication, 1958.

ARTHROPAN^{T.M.}
BRAND OF CHOLINE SALICYLATE
LIQUID

 *The Purdue Frederick Company*

DEDICATED TO PHYSICIAN AND PATIENT SINCE 1892
NEW YORK 14, N. Y. | TORONTO 1, ONTARIO

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CLINICALLY
PROVEN
—prolonged
relaxation
of acute
skeletal
muscle
spasm



Robaxin[®]

Methocarbamol Robins

U.S. Pat. No. 2770649

TABLETS

Summary of six published clinical studies:
**ROBAXIN BENEFICIAL IN 92.4% OF
SKELETAL MUSCLE SPASM CASES**

	NO. PATIENTS		RESPONSE		
		"marked"	moderate	slight	none
Carpenter ¹	33	26	6	1	—
Forsyth ²	58	"pronounced"	20	—	1
		37			
Lewis ³	38	"good"	6	—	7
		25			
O'Doherty & Shields ⁴	17	"excellent"	2	1	0
		14			
Park ⁵	30	"significant"	—	2	1
		27			
Plumb ⁶	60	"gratifying"	—	—	5
		55			
TOTALS	236	184	34	4	14
		(78.0%)	(14.4%)		

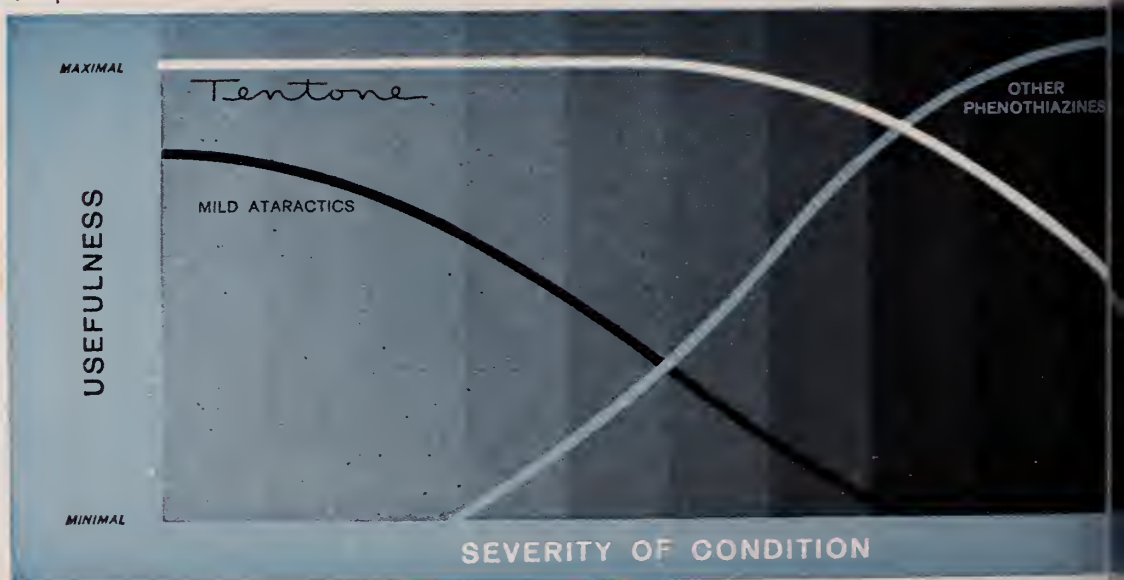
- Highly potent—and long acting.^{1,2,3}
- Relatively free of adverse side effects.^{1,2,3,5,6}
- In ordinary dosage, does not reduce muscle strength or reflex activity.¹

REFERENCES: 1. Carpenter, E. B.: Southern M. J. 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Lewis, W. B.: California Med. 90:26, 1959. 4. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 5. Park, H. W.: J.A.M.A. 167:168, 1958. 6. Plumb, C. S.: Journal-Lancet 78:531, 1958.

A. H. ROBINS CO., INC., Richmond 20, Virginia
Ethical Pharmaceuticals of Merit since 1878

new... highly effective tranquilizer

Comparison of TENTONE usefulness



. for extended office practice use

Tentone

Methoxypromazine Maleate

LEDERLE

NEW PHENOTHIAZINE COMPOUND FOR THE LOWER AND MIDDLE RANGE OF DISORDERS

◆ Positive, rapid calming effect in mild and moderate cases.
◆ Striking freedom from organic toxicity, intolerance, or sensitivity reaction—particularly at low dosage. ◆ Greater freedom from induced depression or drug habituation. ◆ May be useful, as with other tranquilizers, to potentiate action of analgesics, sedatives, narcotics. ◆ Facilitates management of surgical, obstetric, and other hospitalized patients. ◆ Indicated when more than a mild sedative effect is desired...and less than psychosis is involved. ◆ Dosage range: *In mild to moderate cases:* from 30 to 100 mg. daily. *In moderate to severe cases:* from 75 to 500 mg. daily.

LEDERLE LABORATORIES, a Division of **AMERICAN CYANAMID COMPANY**, Pearl River, New York



Supplied



10 mg. tablets



25 mg. tablets



50 mg. tablets

new hope for fetal salvage

DELA

The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifstein¹ in a compilation of data supplied by 45 investigators. Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,² in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy

64% of 42 pregnancies were salvaged by progesterone

83% of 73 pregnancies were salvaged by Delalutin

Eichner,³ found that in Delalutin-treated women, fetal salvage of infants below term

weight (1000 to 2000 gm.) was significantly improved. 108 (76%) of 142 babies of this birth weight survived without mothers receiving progestational therapy, while 16 (100%) of 16 babies of this birth weight survived with mothers receiving Delalutin therapy. A comparison study was made of a group of repeated aborters treated with Delalutin, and a group with a similar history treated with bed rest and sedation.⁴ Pregnancy salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active", well-tolerated and long-acting.

According to Tyler and Olson,⁵ "These qualities of prolonged action and relative freedom from local reactions make [Delalutin] a generally more desirable therapeutic agent for intramuscular use than progesterone . . ."

DELALUTIN BABIES WHOSE MOTHERS WERE HABITUAL ABORTERS



Mary Ann Cribben
Garden City, N. Y.



Amy Sue Greenman
Lincolnwood, Ill.



William Peller
Skokie, Ill.



Randy Sinis
Denver, Colo.



Richard Miller
Denver, Colo.



Scott Knudsen
Norwich, Vt.

References: 1. Reifstein, E. C. Jr.: *Annals N. Y. Acad. Sc.* 71:762 (July 30) 1958. 2. Boschann, H.-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. & Gynec.* 76:279, 1958. 5. Tyler, E. T., and Olson, H. J.: *J.A.M.A.* 169:1843, 1959.

DELALUTIN[®]

*improved
progestational
therapy*

SQUIBB HYDROXYPROGESTERONE CAPROATE

DELALUTIN offers these advantages over other progestational agents:

- long-acting sustained therapy
- more effective in producing and maintaining a completely matured secretory endometrium
- no androgenic effect
- more concentrated solution requiring injection of less vehicle
- unusually well-tolerated, even in large doses
- fewer injections required
- low viscosity makes administration easier

DELALUTIN is also potent and safe therapy for: threatened abortion; postpartum after-pains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

Administration and dosage:

Because of its low viscosity, Delalutin may be administered with a small gauge needle (deep intragluteal injection). Complete information on administration and dosage is supplied in the package insert.

Supply:

Delalutin is available in vials of 2 and 10 cc., each containing 125 mg. of hydroxyprogesterone caproate in sesame oil, and benzyl benzoate.

Each of these healthy, normal babies was born by a mother with a documented previous history of true habitual abortion, who was treated during her most recent pregnancy with DELALUTIN.



Nina Rutkowski
Roselle, Ill.



Rosanne Guberman
Elmont, L.I., N. Y.



Kenneth Michael Simonson
Denver, Colo.



Daniel A. Fabrizio, Jr.
No. Massapequa, L.I., N. Y.



Joanne Verderosa
Seaford, N. Y.



J. Gettemy
Hartford, Conn.



Karen Mary Nederman
East Williston, N. Y.

SQUIBB



Squibb Quality—the Priceless Ingredient

*DELALUTIN[®] IS A SQUIBB TRADEMARK.

ATARAX


PASSPORT
TO
TRANQUILITY




Passport

 a universal record of effectiveness


In anxiety, tension and agitation, ATARAX "... produced a more favorable state of calm and tranquility than any drug previously used."¹

 widest latitude of safety and flexibility

No serious adverse reaction ever documented — five dosage forms and sizes

 chemically distinct among tranquilizers

Not a phenothiazine or a meprobamate

 added frontiers of usefulness

These unique benefits in specific indications

ANTIHISTAMINIC
ANTIARRHYTHMIC
ANTISECRETORY



Dosage: ADULTS, one 25 mg. tablet, or one tbsp. Syrup q.i.d. CHILDREN—3-6 years, one 10 mg. tablet or one tsp. Syrup t.i.d.; over 6 years, two 10 mg. tablets or two tsp. Syrup t.i.d.
Supplied: Tiny 10 mg., 25 mg., and 100 mg. tablets, bottles of 100. Syrup, pint bottles. Parenteral Solution, 10 cc. multiple-dose vials.

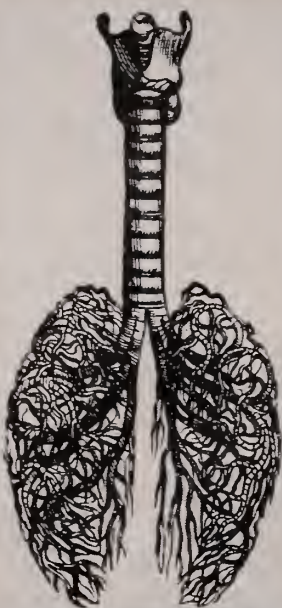
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ATARAX®

(brand of hydroxyzine)



New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being



an added measure
of protection in your
treatment of
upper respiratory disorders

SULTUSSIN[®]

TABLETS (new!) and LIQUID



SULTUSSIN triple sulfonamides add their antibacterial power to your choice of antibiotic to . . .

- help prevent and clear up secondary infections faster and more effectively
- avert the dangers of rheumatic fever, nephritis, otitis media and other complications

SULTUSSIN simultaneously affords maximum relief from sneezing, stuffed or runny nose, cough, wheezing, malaise, slight fever, and other distressing symptoms of the severe common cold, coughs, influenza, etc.

antibacterial chemoprophylaxis • expectorant
antiallergic • bronchodilator • antispasmodic

In new
raspberry
flavored
tablets and
pleasant
tasting
liquid
form.

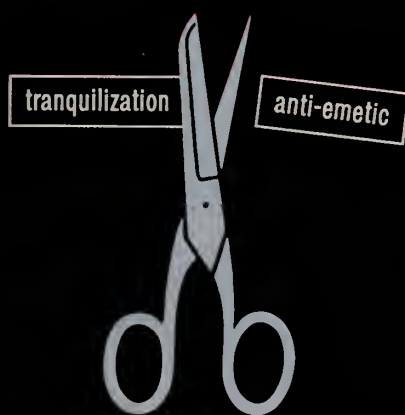
Supplied:
Liquid in 4 ounce
and pint bottles.
Tablets, bottles
of 50 and 100.

	Each tablet provides:	Each teaspoonful (5 cc.) provides:
Sulfadiazine	0.083 Gm.	0.166 Gm.
Sulfamerazine	0.083 Gm.	0.166 Gm.
Sulfamethazine	0.083 Gm.	0.166 Gm.
Pyrilamine Maleate	3.125 mg.	6.25 mg.
Phenyltoloxamine Dihydrogen Citrate	3.125 mg.	6.25 mg.
Glyceryl Guaiacolate	25.0 mg.	50.0 mg.
Ephedrine Sulfate	2.5 mg.	5.0 mg.



THE TILDEN COMPANY • NEW LEBANON, N. Y.
Oldest Manufacturing Pharmaceutical House in America • Founded 1824

now potent tranquilizer therapy is safer than ever



Virtual freedom of Mellaril from major toxic effects is due to greater specificity of tranquilizing action — divorced from such "diffuse" effects as anti-emetic action.

MELLARIL is virtually free
of such toxic effects as

- jaundice
- Parkinsonism
- blood dyscrasia

"Thioridazine [MELLARIL] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines. . . . This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."¹



Mellaril[®]

THIORIDAZINE HCl

specific, effective tranquilizer • safer at all dosage levels

remarkable lack of side effects

In more than 3,000 carefully-followed patients, Mellaril has been almost completely free of such major side effects as jaundice, extrapyramidal symptoms, Parkinsonism, blood dyscrasia, dermatitis—even when given in quantities far in excess of the usual dosage.

"POVERTY" OF SIDE EFFECTS

"The most striking aspect of thioridazine [Mellaril] therapy is the poverty of side effects.... In its lack of side effects and low toxicity, it is superior to all other tranquilizing drugs tested. For this reason also it is well tolerated by patients, particularly those who are not hospitalized and who frequently discontinue their medication because of dizziness, sleepiness, increased tension or parkinsonism with other drugs."²

NEGLIGIBLE SIDE EFFECTS

"Side effects were negligible at all dosage levels: no incidence of parkinsonism or other extrapyramidal symptoms. Minimal sedation, on the whole lower than with other tranquilizing agents. No alteration in liver function, urine or blood. No photosensitivity. Patient acceptability was exceptional: lack of drowsiness, lethargy or 'washed out' feeling, permitted patients to carry on normal everyday activities. Orthostatic hypotension was absent. The initial 'keyed up' tense feeling common to other drugs of this type was absent.... Patients forced to interrupt treatment with other phenothiazine derivatives because of parkinsonism or other extrapyramidal symptoms were able to continue therapy with thioridazine without appearance of parkinsonism."³

SINGULARLY FREE OF SIDE EFFECTS

"The extrapyramidal syndrome was not encountered in

any of its forms. Dizziness and sleepiness responded to a reduction in dosage. Other side effects did not occur.... It is singularly free from the side effects ordinarily seen with these [phenothiazine] compounds."⁴

ABSENCE OF SIGNIFICANT SIDE EFFECTS

"None of the following toxic effects, so common after administration of the phenothiazines, was present during the period of Thioridazine administration: Parkinsonism or Parkinson-like symptoms, photosensitivity, orthostatic hypotension, bone-marrow depression."¹

MINIMAL SIDE EFFECTS

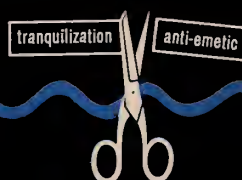
"Side effects such as extrapyramidal activity, jaundice and photosensitivity have not been observed in patients treated with Thioridazine [Mellaril]. Extrapyramidal side effects produced by other phenothiazines have disappeared promptly with no deterioration in the behavioral response when these patients have been shifted to Thioridazine."⁵

NO JAUNDICE

"No allergic reactions were observed such as skin eruptions, jaundice or agranulocytosis. Central nervous system toxicity, as manifested by extrapyramidal effects, seizures, and excitement did not occur despite the use of high doses (up to 2000 mg.) of the drug."⁶

Mellaril®
THIORIDAZINE HCl

specific, effective tranquilizer • safer at all dosage levels



excellent clinical response

In office practice and in hospitalized patients, Mellaril has proved highly useful for a wide variety of major and minor emotional disorders (such as anxiety, tension, apprehension, alcoholism, agitated psychoneurosis, agitated psychotic states, etc.).

EXTREMELY SATISFACTORY "... produced extremely satisfactory results in the broad therapeutic range represented in this series."³

POTENT AGENT "... appears to be a potent agent in the symptomatic management of a variety of psychiatric states."⁴

MAJOR ADDITION TO THERAPEUTICS "This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."¹

AN ACTIVE AGENT "Thioridazine is an active therapeutic agent. . . . It is effective in a variety of psychiatric disorders, including schizophrenic reactions. . . . The drug is particularly advantageous for a group of schizophrenic patients who are sometimes made worse by other phenothiazine derivatives or Rauwolfia alkaloids. It should also be suitable for treating patients with psychoneuroses and chronic brain syndrome."⁶

EVEN IN VERY SEVERE CASES "Of the 152 patients treated 25 have been released and they have not suffered a relapse. This proportion is significant if we stop to consider that we are dealing only with acute cases which had been considered hopeless and obviously destined to finish their days in an asylum."⁷

EXCELLENT THERAPEUTIC RESPONSE "Patients with emotional tensions resulting from the stress and strain of life . . . were treated with Mellaril at the dosage level of 10 mg. three times daily. In 94 such patients, 83 obtained an excellent therapeutic response."⁸

"... extremely satisfactory results..."
in a clinical spectrum ranging from
minor nervous disorders to
severe psychotic disturbances³

RESULTS WITH MELLARIL IN 194 PATIENTS ³		
ACUTE PSYCHOTICS	CHRONIC PSYCHOTICS	NEUROTICS
83% satisfactory effect	68% satisfactory effect	57% satisfactory effect
Some cases had complete re- mission of symptoms. Most were able to return home to useful occupations.	Relief of symptoms in cases permitted easier management and a return to a more or less useful life	Some cases, complete relief of symptoms. Other cases, partial relief of symptoms.

RESULTS WITH MELLARIL IN PATIENTS PREVIOUSLY TREATED WITH OTHER TRANQUILIZERS ³				
DIAGNOSTIC CATEGORY	IMPROVED %	VERY SATISFACTORY %	SATISFACTORY %	UNSATISFACTORY %
SCHIZOPHRENIA				
Acute	89	61	28	11
Chronic paranoid	84.2	31.6	52.6	15.8
Chronic, other	73.9	21.7	52.2	26.1
Residual	57.1	9.5	47.6	42.9
CHRONIC BRAIN SYNDROME	66.6	33.3	33.3	33.3
CHRONIC PSYCHONEUROSIS	62.5	12.5	50	37.5
CHRONIC PSYCHOSOMATIC DISORDERS	75	25	50	25



Mellaril[®]

THIORIDAZINE HCl

specific, effective tranquilizer • safe at all dosage levels

tranquilization

anti-emetic





Mellaril[®]

THIORIDAZINE HCl

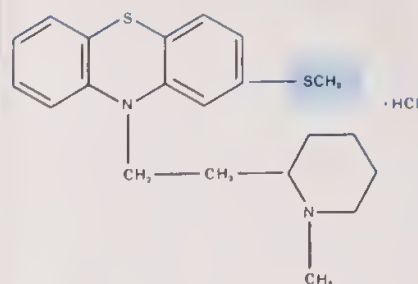
specific, effective tranquilizer • safe at all dosage levels

tranquilization

anti-emetic

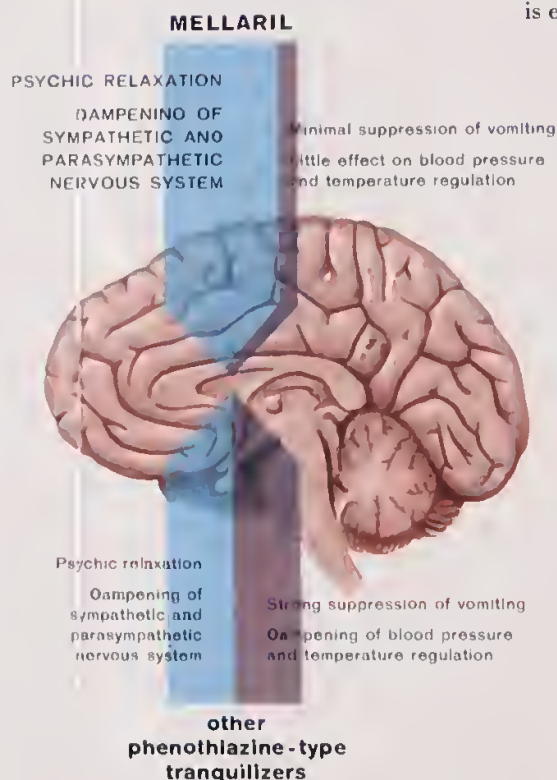


a new advance in tranquilization:
greater specificity of tranquilizing action plus fewer side effects



Of 109 phenothiazines synthesized by Sandoz, Mellaril was selected as the most promising on the basis of extensive evaluation. The presence of a thiomethyl radical ($S-CH_3$) in the position conventionally occupied by a halogen in other phenothiazines is unique and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:

- 1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.



- 2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.
- 3 A notable absence of extrapyramidal stimulation.
- 4 Lack of impairment of patient's normal drive and energy, while achieving psychomotor control in mental and emotional disorders.
- 5 Virtual freedom from toxic effects — jaundice, photosensitivity, skin eruptions, disturbed body temperature regulation, blood forming disorders have been absent in reports currently available.

These properties add up to a greater margin of safety in general office practice, in ambulatory psychiatric out-patient clinics, and in hospitalized patients.

a guide to administration and dosage

Dosage ranges from 10 mg. three or four times a day in milder situations to 25 mg. three or four times a day for more disturbed patients. In ambulatory psychiatric out-patients, dosages of 50 to 100 mg. three or four times a day have been found adequate. For severely dis-

turbed hospitalized psychotics, dosages of 200 to 300 mg. three times a day may be administered.

Dosage must be individualized according to the condition and degree of response. In all cases, the smallest effective dosage should be determined for each patient.

INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANGE
ADULTS		
Mental and Emotional Disturbances:		
MILD — where anxiety, apprehension and tension are present	10 mg. t.i.d.	20-60 mg.
MODERATE — where agitation exists in psychoneurosis, alcoholism, intractable pain, senility, etc.	25 mg. t.i.d.	50-200 mg.
SEVERE — in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.:		
Ambulatory	100 mg. t.i.d.	200-400 mg.
Hospitalized	100 mg. t.i.d.	200-800 mg.
CHILDREN		
BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.

PRECAUTIONS: Although possessing a unique structure and a selectivity of action which broadens its therapeutic ratio, the physician should be alert to the possibility of untoward reactions in certain susceptible individuals. In

particular, he should watch for potential hemopoietic depression, jaundice or orthostatic hypotension. As with other phenothiazines, Mellaril is contraindicated in severely depressed or comatose states from any cause.

SUPPLIED: MELLARIL Tablets, 10 mg., 25 mg., 100 mg. Bottles of 100.

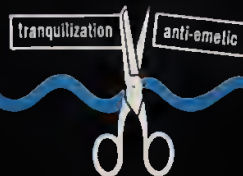
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- controls neurotic and psychotic patients with anxiety, apprehension, nervous tension
- virtual absence of jaundice, parkinsonism, photosensitivity, dermatitis
- minimal sedation and drowsiness
- does not mask organic conditions such as brain tumors, intestinal obstruction, etc., because of lack of anti-emetic action
- increased specificity of action results in greater safety at all dosage levels



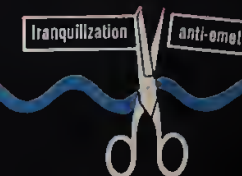
Mellaril®
THIORIDAZINE HCl

specific, effective tranquilizer • safer at all dosage levels



Mellaril®
THIORIDAZINE HCl

specific, effective tranquilizer • safer at all dosage levels



Where a poly-unsaturated oil
is called for in the diet,

Wesson

satisfies the most
exacting requirements

(and the most exacting palates!)



More acceptable to patients. Wesson contributes greatly to the palatability of food and, thus, can be important in encouraging patients to maintain prescribed restricted diets. By the criteria of odor, flavor (blandness) and lightness of color, housewives prefer Wesson.*

Uniformity you can depend on. Wesson has a poly-unsaturated content better than 50%. Only the lightest cottonseed oils of highest iodine number are selected for Wesson, and no significant variations are permitted in the 22 exacting specifications required before bottling.

Economy. Wesson is consistently priced lower than the next largest seller, a not unimportant consideration, where poly-unsaturated oil is called for.

Wesson's Active Ingredients:

Linoleic acid glycerides	50% to 55%
Phytosterol (predominantly beta sitosterol)	0.4% to 0.7%
Total tocopherols	0.09% to 0.12%
Never hydrogenated—completely salt free	

* Reconfirmed by recent tests against the next leading brand with brand identifications removed, among a national probability sample.



“ankle-itis”

there's pain and
inflammation here...

it could be mild
or severe, acute or
chronic, primary or
secondary fibrositis — or even
early rheumatoid arthritis

more potent and comprehensive treatment than salicylate alone

assured anti-inflammatory effect of low-dosage corticosteroid¹ . . . additive antirheumatic action of corticosteroid plus salicylate²⁻⁵ brings rapid pain relief; aids restoration of function . . . wide range of application including the entire fibrositis syndrome as well as early or mild rheumatoid arthritis

more conservative and manageable than full-dosage corticosteroid therapy—


much less likelihood of treatment-interrupting side effects¹⁻⁶ . . . reduces possibility of residual injury . . . simple, flexible dosage schedule

THERAPY SHOULD BE INDIVIDUALIZED

acute conditions: Two or three tablets four times daily. After desired response is obtained, gradually reduce daily dosage and then discontinue.

subacute or chronic conditions: Initially as above. When satisfactory control is obtained, gradually reduce the daily dosage to minimum effective maintenance level. For best results administer after meals and at bedtime.

precautions: Because SIGMAGEN contains prednisone, the same precautions and contraindications observed with this steroid apply also to the use of SIGMAGEN.



in
any
case
it calls for

Sigmagen[®]

corticoid-salicylate compound tablets

Composition

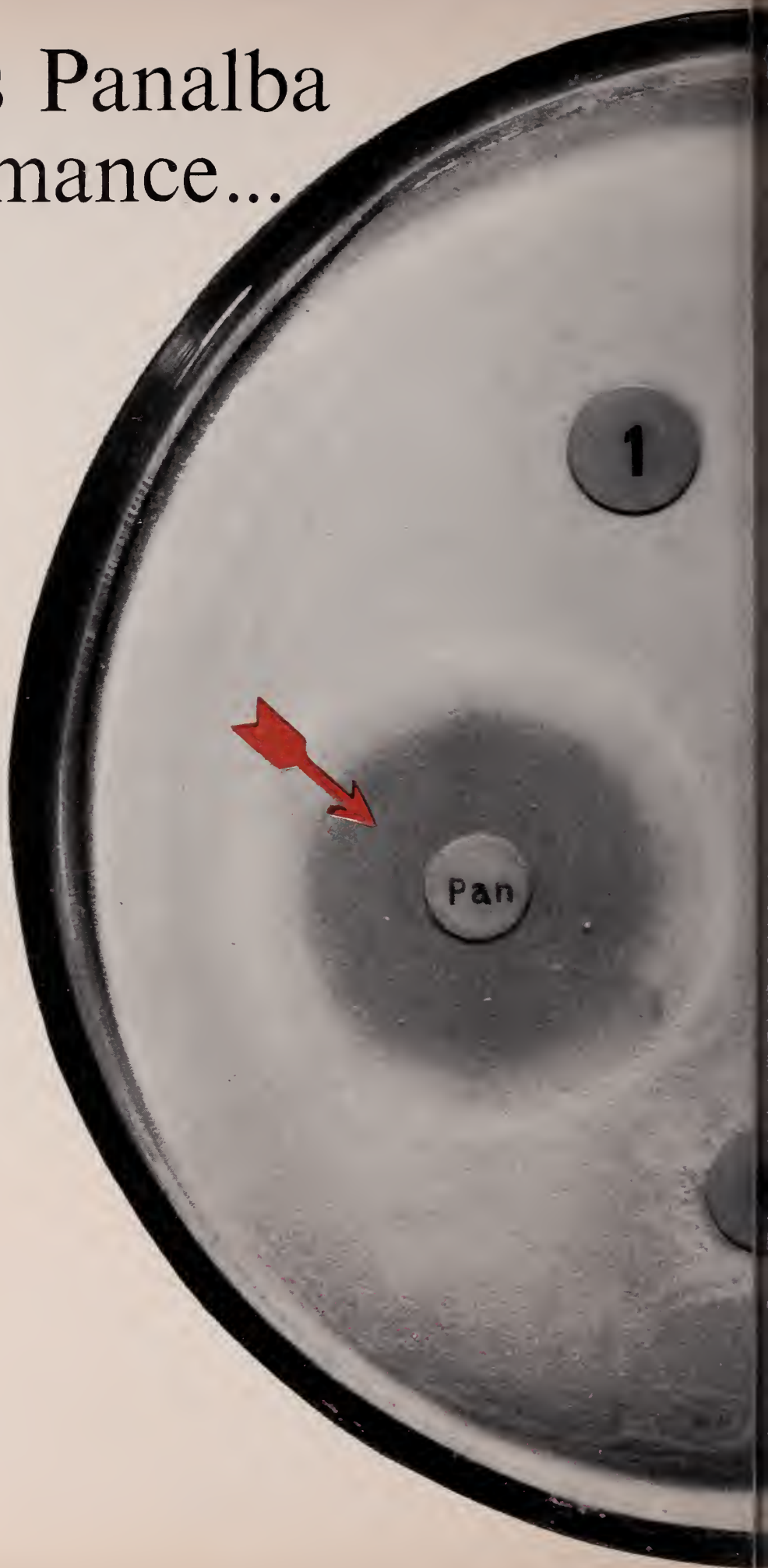
METICORTEN® (prednisone)	0.75 mg.
Acetylsalicylic acid	325 mg.
Aluminum hydroxide	75 mg.
Ascorbic acid	20 mg.

Packaging: SIGMAGEN Tablets, bottles of 100 and 1000.

References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

Schering

This is Panalba
performance...





in pneumonia

... into a mixed culture of the three organisms commonly involved in pneumonia . . . *K. pneumoniae*, *Diplococcus pneumoniae*, and *Staphylococcus aureus* (in this case a resistant strain) . . . we introduce the five most frequently used antibiotics.

Twenty-four hours later (in this greatly enlarged photograph), note that only *one* of the five leading antibiotics has stopped *all* the organisms, including the resistant staph! This is Panalba.

In your next pneumonia patient . . . in *all* your patients with potentially-serious infections . . . provide this extra protection with your prescription :

Dosage—1 or 2 capsules 3 or 4 times a day.

Supplied—Capsules containing Panmycin phosphate equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin as novobiocin sodium, in bottles of 16 and 100. *Now available: new Panalba Half-Strength Capsules in bottles of 16 and 100.*

Panalba*

(Panmycin* Phosphate plus Albamycin*)

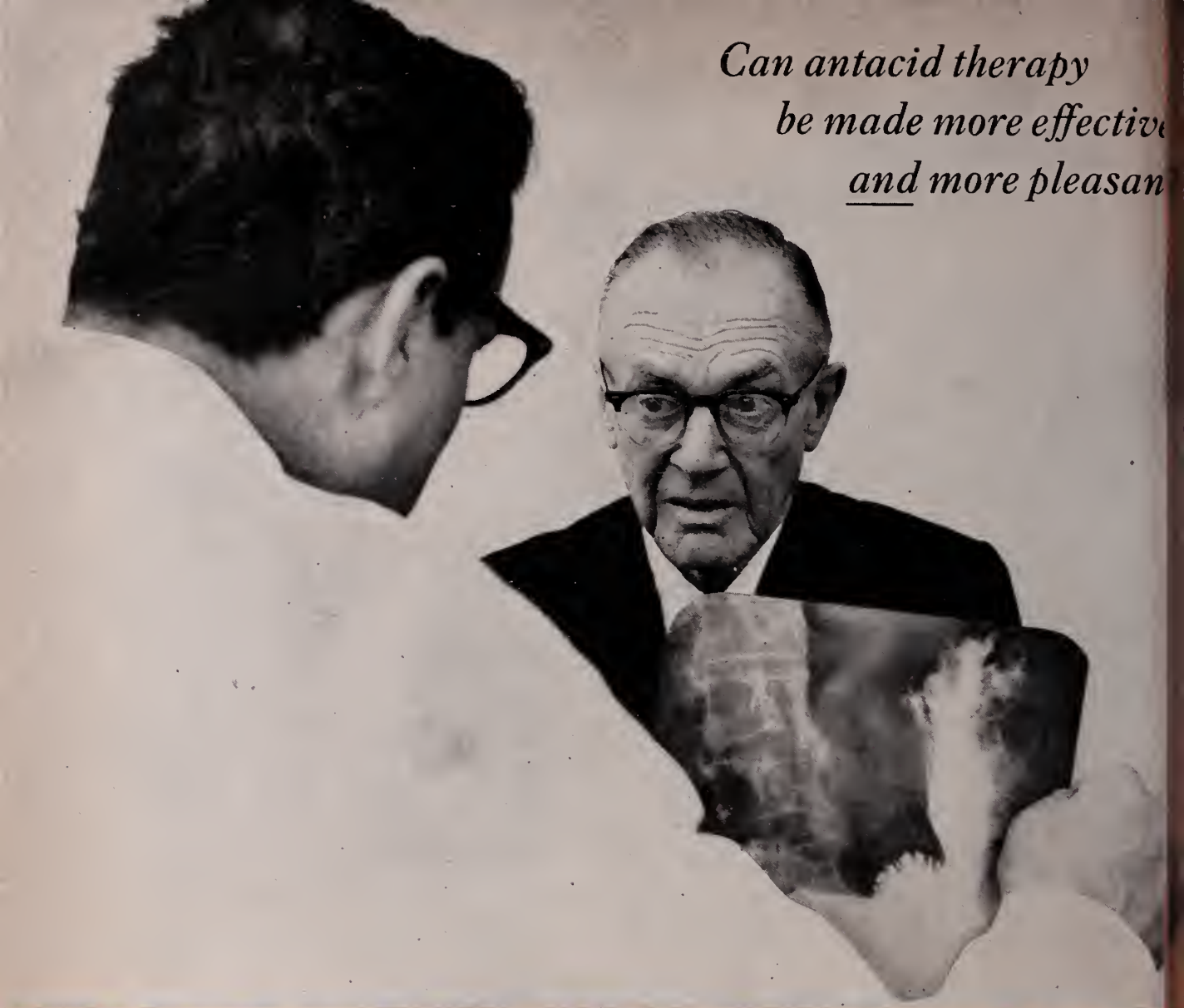
The broad-spectrum
antibiotic of
first resort

Upjohn

The Upjohn Company
Kalamazoo, Michigan



*TRADEMARK, REG. U. S. PAT. OFF.



*Can antacid therapy
be made more effective
and more pleasant*

THE MOST SIGNIFICANT IMPROVEMENT IN
ANTACID THERAPY SINCE THE INTRODUCTION
OF ALUMINUM HYDROXIDE IN 1929

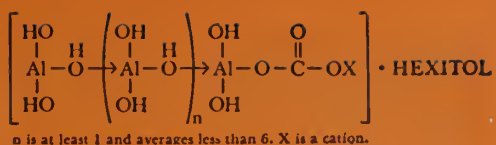
NEW

Creamalin[®] ANTACID TABLET

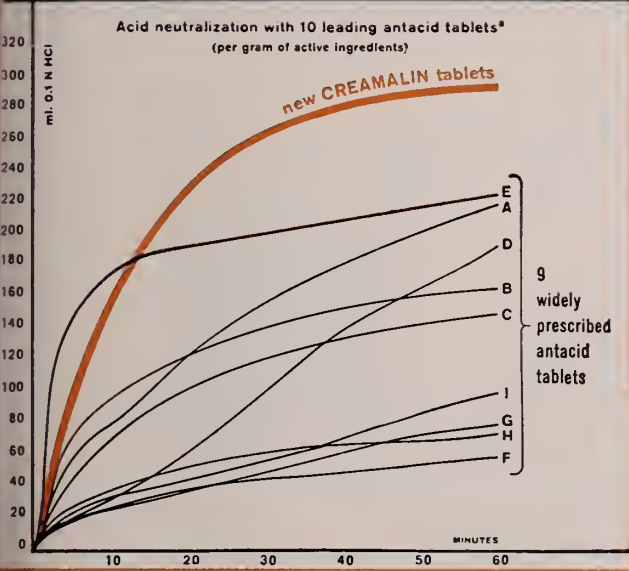
Each Creamalin Antacid Tablet contains 320 mg. specially processed, highly reactive, short polymer dried aluminum hydroxide gel, (stabilized with hexitol), with 75 mg. magnesium hydroxide.

1. *Neutralizes acid faster (quicker relief)*
2. *Neutralizes more acid (greater relief)*
3. *Neutralizes acid longer (more lasting relief)*
4. *No constipation • No acid rebound*
5. *More pleasant to take*

a new high in effectiveness
and palatability

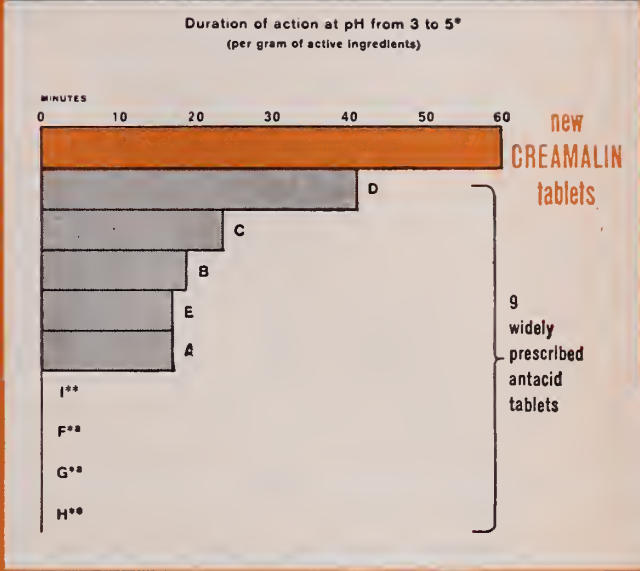


CREAMALIN NEUTRALIZES MORE ACID FASTER
Quicker Relief • Greater Relief



Tablets were powdered and suspended in distilled water in a constant temperature chamber (37°C) equipped with mechanical stirrer and pH electrodes. Hydrochloric acid was added as needed to maintain pH at 3.5. Volume of acid required was recorded at frequent intervals for one hour.

CREAMALIN NEUTRALIZES MORE ACID LONGER
More Lasting Relief



*Hinkel, E. T., Jr., Fisher, and Talnter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.
**pH stayed below 3.

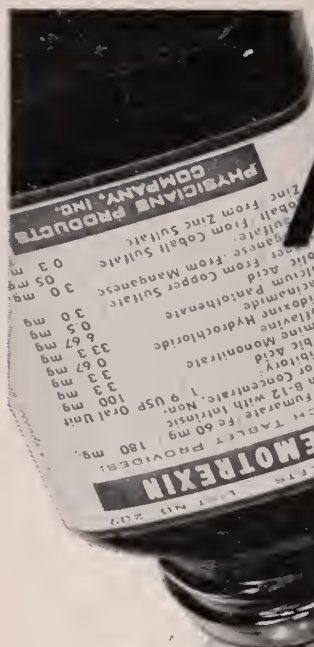


No chalky taste. New CREAMALIN tablets are not chalky, gritty, rough or dry. They are highly palatable, soft, smooth, easy to chew, mint flavored.

- NO ACID REBOUND • NO CONSTIPATION
- NO SYSTEMIC EFFECT

Adult Dosage: Gastric hyperacidity: 2 to 4 tablets as necessary. Peptic ulcer or gastritis: 2 to 4 tablets every two to four hours. Tablets may be chewed, swallowed with water or milk, or allowed to dissolve in the mouth.

Supplied: Bottles of 50, 100, 200 and 1000.



HEMOTREXIN

... Comprehensive therapy
for all treatable secondary
anemias...especially when
accompanied by **STRESS!**

**HEMATINIC AND
HEMAPOIETIC FACTORS
COMBINED WITH THE
STRESS FORMULA
VITAMINS**

FORMULA	EACH TABLET	PROVIDED IN THREE TABLETS A DAY	NATIONAL RESEARCH COUNCIL STRESS FORMULA RECOMMENDATIONS
Ferrous Fumarate	180 mg.	180 mg. Fe	
Vitamin B-12 with Intrinsic Factor Concentrate, Non-Inhibitory	1/9 USP Oral Unit	1/3 USP Oral Unit (5 mcg. B-12)	4 mcg. B-12
Ascorbic Acid	100 mg.	300 mg.	300 mg.
Thiamine Mononitrate (B-1)	3.3 mg.	10 mg.	10 mg.
Riboflavin (B-2)	3.3 mg.	10 mg.	10 mg.
Pyridoxine Hydrochloride (B-6)	0.67 mg.	2.0 mg.	2.0 mg.
Niacinamide	33.3 mg.	100 mg.	100 mg.
Calcium Pantothenate	6.67 mg.	20 mg.	20 mg.
Folic Acid	0.5 mg.	1.5 mg.	1.5 mg.
Copper (From Copper Sulfate)	3.0 mg.	9.0 mg.	
Manganese (From Mn Sulfate)	3.0 mg.	9.0 mg.	
Cobalt (From Cobalt Sulfate)	0.05 mg.	0.15 mg.	
Zinc (From Zinc Sulfate)	0.3 mg.	0.9 mg.	

DOSAGE

ADULTS, one tablet three times daily
after meals. CHILDREN, one to three tab-
lets daily according to age.

INDICATIONS

All treatable secondary anemias, especially when accom-
panied by *stress conditions*, as in anemias of pregnancy,
convalescence, adolescence, post-infection anemias,
anemias following drug therapy, and in the prevention
and treatment of nutritional deficiencies.



PHYSICIANS

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PETERSBURG, VIRGINIA

SAMPLES AND LITERATURE GLADLY SENT UPON REQUEST

- Exhibits unusual analgesic properties, different from those of any other drug
- Specific and superior in relief of SOMATIC pain
- Modifies central perception of pain without abolishing natural defense reflexes
- Relaxes abnormal tension of skeletal muscle

SOMA^{T.M.}

N-isopropyl-2-methyl-2-propyl-1, 3-propanediol dicarbamate

- More specific than salicylates
- Less drastic than steroids
- More effective than muscle relaxants

SOMA has an unique analgesic action. It apparently modifies central pain perception without abolishing peripheral pain reflexes. **SOMA** is particularly effective in relieving joint pain. Patients say that they feel better and sleep better with **SOMA** than with previously used analgesic, sedative or relaxant drugs.

SOMA also relaxes muscle hypertonia, with its stresses on related joints, ligaments and skeletal structures.

ACTS FAST. Pain-relieving and relaxant effects start in 30 minutes and last 6 hours.

NOTABLY SAFE. Toxicity of **SOMA** is extremely low. No effects on liver, endocrine system, blood pressure, blood picture or urine have been reported. Some patients may become sleepy, particularly on high dosage.

EASY TO USE. Usual adult dose is one 350 mg. tablet 3 times daily and at bedtime.

SUPPLIED: Bottles of 50 white coated 350 mg. tablets.

Literature and samples on request.



WALLACE LABORATORIES, NEW BRUNSWICK, N. J.



NIAMID^{*}

the mood brightener

EFFECTIVE AND WELL TOLERATED

in depression

NIAMID has been found to be strikingly effective and well tolerated in a broad range of depressive states including a wide variety of the milder depressive syndromes, as well as the masked depression so frequently seen in general practice. These syndromes include: depression associated with the menopause, postoperative depressive states and senile depression; depression accompanying chronic or incurable illness, such as gastrointestinal and cardiovascular disorders and inoperable cancer.

in angina pectoris

NIAMID, in intensive clinical tests, has proved to have a high degree of safety and to be a valuable adjunct in the management of the anginal syndrome. NIAMID produces striking symptomatic improvement in angina patients—markedly reduces the pain, severity and frequency of anginal episodes, reduces nitroglycerin requirements, and provides an increased sense of well-being. Since dramatic improvement is seen in some patients, it is wise to advise the patient against overexertion—his disorder still holds potential dangers despite relief of symptoms.


DOSAGE: Start with 75 mg. daily in single or divided doses. After a week or more, adjust the dosage, depending upon patient response, in steps of one or one-half 25 mg. tablet. Once improvement is seen, gradually reduce dosage to the maintenance level. Many patients respond to NIAMID within a few days, others in 7 to 14 days. A few patients may require as much as 200 mg. daily over a longer period of time before significant improvement is seen.

PRECAUTIONS: Side effects are infrequent and mild, and often lessened or eliminated by a reduction in dosage. Hypotensive effects have rarely been noted and no jaundice or other evidence of liver damage has been reported in patients receiving NIAMID. However, in patients with a history of liver disease, the possibility of hepatic reactions should be kept in mind.

SUPPLY: NIAMID is available as 25 mg. (pink) and 100 mg. (orange) scored tablets.

Already clinically proved in several thousand patients—

Complete references and a Professional Information Booklet giving detailed information on NIAMID are available on request.

 *Science for the world's well-being*

*Trademark for brand of nialamide

PFIZER LABORATORIES, Division, Chas. Pfizer & Co., Inc., Brooklyn 6, New York



avoid the risk of insoluble, irritating aspirin particles

Chief among the drawbacks to aspirin usage is gastric intolerance. This ranges from mild upset and "heartburn" to severe hemorrhagic gastritis.¹⁻¹⁰ Studies performed in conjunction with gastrectomy^{4,5} and gastroscopy² have shown insoluble aspirin particles firmly adherent to

the gastric mucosa and imbedded between rugae. Reactions varying from mild hyperemia to erosive gastritis have been reported to occur in the areas immediately surrounding these adherent particles.^{2,4,5} This is reported to be particularly true in patients with peptic ulcer.⁴

CALURIN is the freely soluble, stable calcium aspirin complex. Its high solubility forestalls gastric irritation or damage



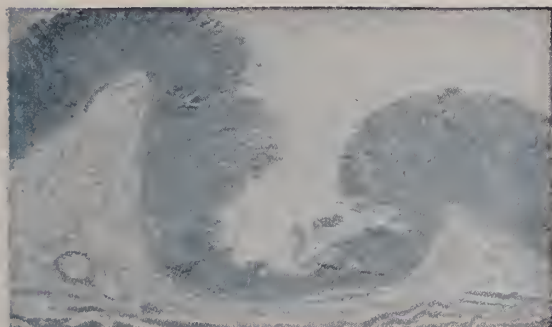
Regular aspirin crystals 24 hours after being mixed into water.



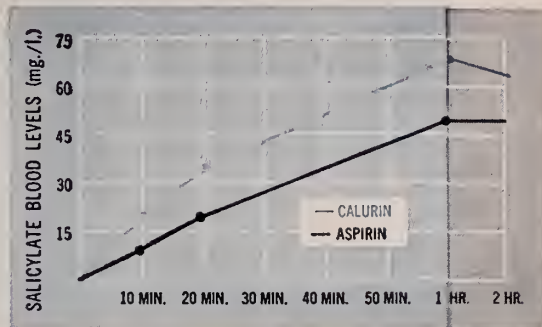
Calurin crystals in solution one minute after being mixed into water.

CALURIN*

STABLE SOLUBLE CALCIUM-ACETYSALICYLATE-CARBAMIDE



Particle-induced ulceration—section through lesion found in gastrectomy specimen. An aspirin particle was found firmly imbedded in this undermined erosion. Such lesions may be associated with the relative insolubility of aspirin, which remains in particulate form after dispersion in gastric contents.



Calurin, being freely soluble, is promptly available for absorption into the systemic circulation. Salicylate blood levels in 12 subjects receiving both Calurin and plain aspirin were found to rise more than twice as high within ten minutes following Calurin. Also, these levels persisted higher for at least two hours.¹¹

CALURIN is the aspirin of choice, especially when high-dosage, long-term therapy is indicated:

- 1 High solubility forestalls gastric irritation or damage. This advantage is of special importance in arthritis and other conditions requiring high-dosage, long-term therapy.
- 2 Produces high salicylate blood levels rapidly for prompt analgesic, anti-pyretic, anti-arthritis effect.
- 3 Sodium-free — for safer long-term therapy.
- 4 Flavored: can be chewed or dissolved in the mouth without water if desired — an advantage for patients requiring aspirin administration during the night and for pediatric patients.

Dosage: Each tablet of Calurin is equivalent to 300 mg. (5 gr.) of acetylsalicylic acid. For relief of pain and fever in adult patients, the usual dose of Calurin is 1 to 3 tablets every 4 hours, as needed; in arthritic states, 2 or 3 tablets 3 or 4 times daily; in rheumatic

fever, 3 to 5 tablets 4 or 5 times daily. For children over 6 years, the usual dose is 1 tablet every 4 hours; for children 3 to 6 years, ½ tablet every 4 hours, as required. Not recommended for children under 3.

REFERENCES: 1. Waterson, A. P.: Aspirin and gastric haemorrhage, *Brit. M. J.* 2:1531, 1955. 2. Douthwaite, A. H., and Lintott, G. A. M.: Gastrosopic observation of the effect of aspirin and certain other substances on the stomach, *Lancet* 2:1222, 1938. 3. Editorial Comments: The effect of acetylsalicylic acid (aspirin) on the gastric mucosa, *Canad. M. A. J.* 80:47, 1959. 4. Muir, A., and Cossar, I. A.: Aspirin and ulcer, *Brit. M. J.* 2:7, 1955. 5. Muir, A., and Cossar, I. A.: Aspirin and gastric haemorrhage, *Lancet* 1:539, 1959. 6. Schneider, E. M.: Aspirin as a gastric irritant, *Gastroenterology* 33:616, 1957. 7. Bayles, T. B., and Tenckhoff, H.: Salicylate therapy in rheumatic diseases, Scientific Exhibit, Ann. Mtg. A. M. A., San Francisco, Calif., June, 1958. 8. Batterman, R. C.: Comparison of buffered and unbuffered acetylsalicylic acid, *New Eng. J. M.* 258:213, 1958. 9. Cronk, G. A.: Laboratory and clinical studies with buffered and nonbuffered acetylsalicylic acid, *New Eng. J. M.* 258:219, 1958. 10. Editorial: Aspirin plain and buffered, *Brit. M. J.* 1:349, 1959. 11. Smith, P. K.: Plasma concentration of salicylate after the administration of acetylsalicylic acid or calcium acetylsalicylate to human subjects, Report submitted to Smith-Dorsey from Dept. of Pharmacology, Geo. Washington Univ. School of Medicine, Washington, D. C., Sept. 5, 1958.

*TRADEMARK

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TABLET
DAILY**



provides therapeutic sulfa levels for 24 hours...
Highly soluble in acid and alkaline media...
rapidly absorbed, producing fast, effective
plasma-tissue concentrations sustained for the
entire day. Simple, single 0.5 Gm. daily dose
minimizes patient dosage confusion. At least
equivalent to 4 to 6 Gms. daily of previous
sulfonamides. Does not produce renal
complications.¹

with low incidence of sensitivity reactions...
KYNEX is extremely low in toxic potential.^{2,3}
Cutaneous or other objective sensitivity
reactions are rare, as demonstrated in a large
scale evaluation of clinical toxicity.² Also minor
subjective reactions are less likely to develop
when the recommended dosage is used.²

Dosage: Adults, 0.5 Gm. (1 tablet) daily following an initial
first-day dose of 1 Gm. (2 tablets).

TABLETS, 0.5 Gm., Bottles of 24 and 100.

also available—KYNEX Acetyl Pediatric Suspension, cherry-
flavored, 250 mg. sulfamethoxypyridazine activity per tea-
spoonful (5 cc.). Bottles of 4 and 16 fl. oz.

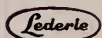
1. Editorial, New England J. Med. 258:48, 1958.
2. Vinnicombe, J.: Antibiotic Med & Clin. Ther. 5:474, 1958.
3. Sheth, U. K., et al.: Ibid., p. 604, 1958.

for improved control

WHENEVER SULFAS ARE INDICATED

KYNEX[®]

Sulfamethoxypyridazine Lederle



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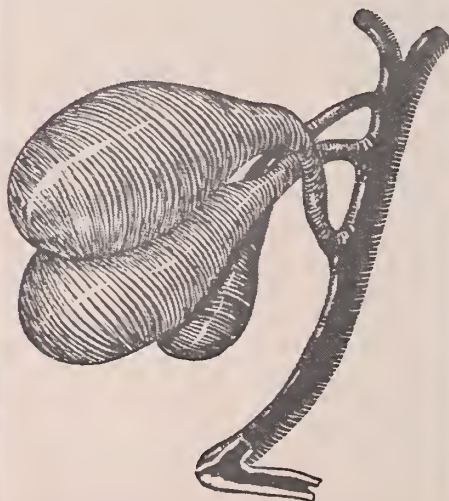
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HOW PREVALENT ARE MULTIPLE GALLBLADDER ANOMALIES?

One hundred and twenty-two cases of *vesica fellea divisa* (bilobed gallbladder) and *vesica fellea duplex* (double gallbladder with 2 cystic ducts) are reported in the literature. A unique case of *vesica fellea triplex* has recently been described.

Source: Skilboe, B.: Am. J. Clin. Path. 30:252, 1958.



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(dehydrocholic acid, AMES)

"...dehydrocholic acid...does considerably increase the volume output of a bile of relatively high water content and low viscosity. This drug is therefore a good 'flusher,' and is effectively used in treating both the chronic unoperated patient and the patient who has a T-tube drainage of an infected common bile duct."¹

free-flowing bile

plus reliable spasmolysis

DECHOLIN[®] WITH BELLADONNA

"...DECHOLIN/Belladonna in a dosage of one tablet t.i.d. for a period of two to three months may prove helpful in relieving postoperative symptoms, aiding the digestion, and facilitating elimination."²

(1) Beckman, H.: Drugs: Their Nature, Action and Use, Philadelphia, W. B. Saunders Company, 1958, p. 425.
(2) Biliary Tract Diseases, M. Times 85:1081, 1957.

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A close-up photograph of a human hand, palm facing forward, with the index and thumb fingers extended to hold a small, red, oval-shaped pill. The background is a plain, light-colored surface.

extra
active

Lederle introduces a masterpiece of antibiotic design



Strikingly enhances the traditional advantages of broad-spectrum antibiotics...

for greater patient-physician benefit

DECLOMYCIN is a unique fermentation product of a strain of *Streptomyces aureofaciens*—the parent organism of AUREOMYCIN®* and ACHROMYCIN.®†

DECLOMYCIN singularly achieves:

- far greater antibiotic activity with far less drug
- greater stability in body media
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- “extra-day” protection through sustained activity

DECLOMYCIN retains:

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*Chlortetracycline Lederle †Tetracycline Lederle

DECLOMYCIN

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Far greater antibiotic activity with far less antibiotic

Milligram for Milligram, DECLOMYCIN exhibits 2 to 4 times the clinical potency (inhibitory action) of tetracycline against susceptible organisms. Thus, DECLOMYCIN has the advantage of providing significantly higher serum *activity* levels with significantly reduced drug intake.* ^{1,3,5}

Actually, DECLOMYCIN demonstrates the highest ratio of prolonged activity level to daily milligram intake of any known broad-spectrum antibiotic. Reduction of milligram intake of drug reduces hazards of related physical effect on intestinal mucosa or interaction with gastrointestinal contents.

*Activity level is a far more meaningful basis of comparison than quantitative blood levels, as Hirsch and Finland note. Action upon pathogens is the ultimate value.¹

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Unrelenting peak antimicrobial attack throughout therapy

The high level of DECLOMYCIN activity is uniquely sustained. It is not just an initial phenomenon but is constant—maintained on each day of treatment and between doses—without noticeable diminution of intensity. Peak-and-valley control is eliminated, favoring continuous suppression of pathogens and consequent improvement.

This DECLOMYCIN constant is achieved through remarkably greater stability in body fluids,^{2,4,6} resistance to degradation⁶ and a low rate of renal clearance^{4,5}—all supporting antibiotic activity for extended periods.

DECLOMYCIN

Demethylchlortetracycline Lederle

“Extra-day” activity for security against relapse

DECLOMYCIN maintains significant antibacterial activity for one to two days after discontinuance of dosage¹—a major distinction from other antibiotics. Previous drugs have declined abruptly in activity following withdrawal.

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MYCIN



A masterpiece of



greater antibiotic activity

with far less antibiotic intake

unrelenting peak attack

—enhancing the unsurpassed features of
tetracycline...for greater physician-patient benefits

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antibiotic design

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"extra-
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FOR PROTECTION
AGAINST
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DECLOMYCIN

Demethylchlortetracycline Lederle

immediately available as:

DECLOMYCIN Capsules, 150 mg.

Adult dosage: 1 capsule four times daily.

1. Hirsch, H. A., and Finland, M.: Antibacterial Activity Of Serum Of Normal Subjects After Oral Doses of Demethylchlortetracycline, Chlortetracycline and Oxytetracycline. *New England J. Med.* 260:1099 (May 28) 1959. 2. Hirsch, H. A., Kunin, C. M., and Finland, M.: Demethylchlortetracycline — A New And More Stable Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Activity. To be published. 3. Lichter, E. A., and Sobel, S.: The Distribution Of Oral Demethylchlortetracycline In Healthy Volunteers And In Patients Under Treatment For Various Infections. To be published. 4. Kunin, C. M., Dornbush, A. C. and Finland, M.: Distribution And Excretion Of Four Tetracycline Analogues In Normal Young Men. To be published. 5. Kunin, C. M., and Finland, M.: Demethylchlortetracycline: New Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Capacity. *New England J. Med.* 259:999 (Nov. 28) 1958. 6. Sweeney, W. M.; Hardy, S. M.; Dornbush, A. C., and Rueggsegger, J. M.: Demethylchlortetracycline: A Clinical Comparison of A New Antibiotic with Chlortetracycline and Tetracycline. *Antibiotics & Chemotherapy* 9:13 (Jan.) 1959.

R_x

*Declomycin Caps
150 mg.*

Disp # XVI

Sig 1 cap q.i.d.

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*Contains potassium chloride,
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Decongestant / Antihistamine

THE POTENTIATED DECONGESTANT



provides symptomatic relief of nasal congestion and rhinorrhea of allergic or infectious origin

Many patients whose symptoms are inadequately controlled by decongestants or antihistamines alone respond promptly and favorably to 'ACTIFED'.

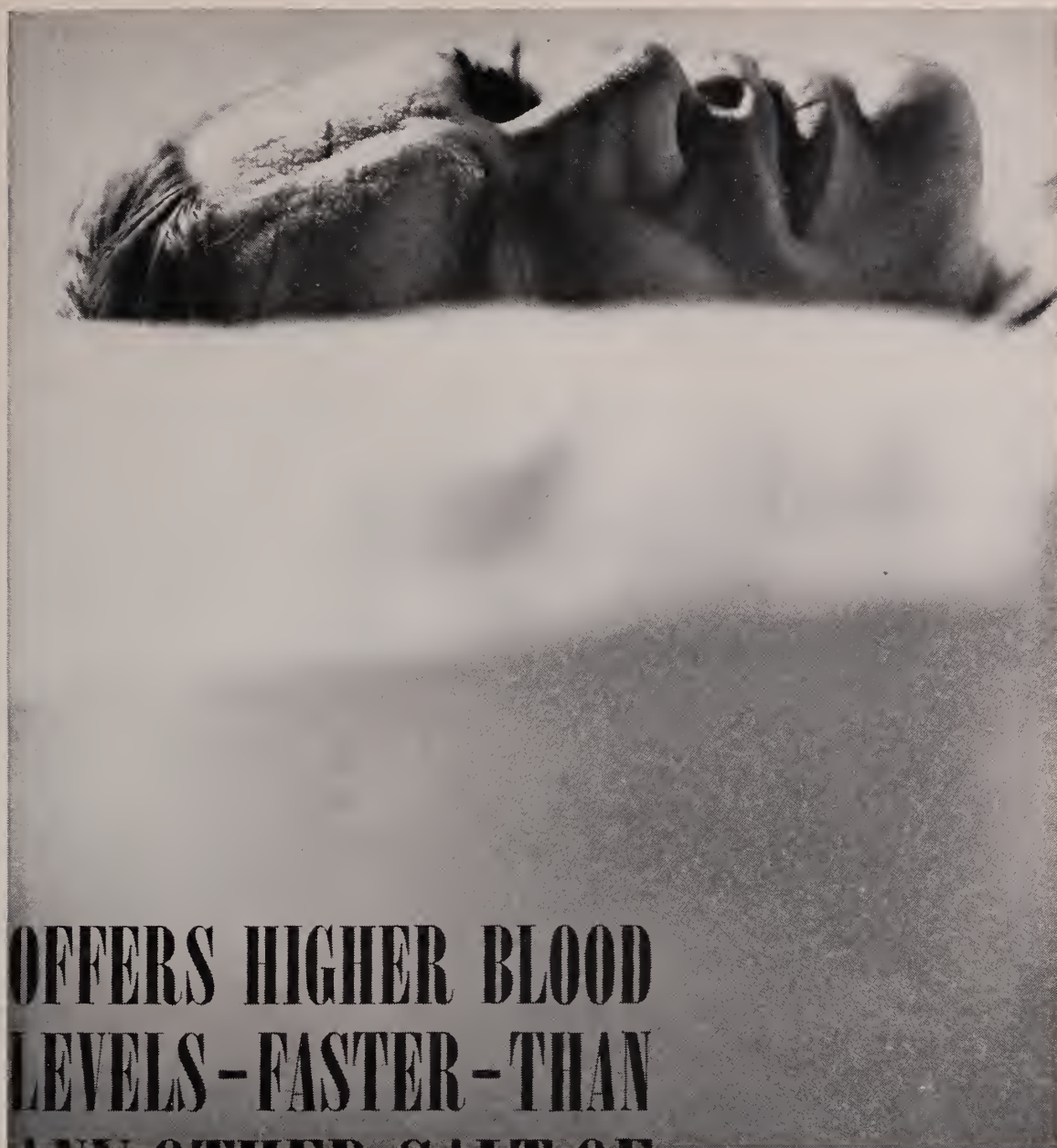
'ACTIFED' contains:		in each	in each tsp.
		Tablet	Syrup
'Actidil' [®] brand Triprolidine Hydrochloride		2.5 mg.	1.25 mg.
'Sudafed' [®] brand Pseudoephedrine Hydrochloride		60 mg.	30 mg.

safe and effective for patients of all ages suffering from respiratory tract congestion

DOSAGE			
	TABLETS	SYRUP (5 cc. tsp.)	
Adults and older children	1	2	} three times daily
Children 4 months to 6 years of age	½	1	
Infants through 3 months	—	½	



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in tiny, easy-to-swallow Filmtabs® in tasty, cherry-flavored Oral Solution



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**WITH THE OUTRAGED VIGOR OF A
WOUNDED TIGER AND PUNCTUATES
HIS SHRIEKS WITH FLATUS..."***

Skopyl®
Methyl Scopolamine Nitrate

FOR THE TREATMENT OF INFANT COLIC

Easy Administration: Just one or two drops of Skopyl under the tongue, 20-30 minutes before each feeding — or 3 drops for an acute attack of colic.

Fast Action: The rapid absorption of Skopyl into the blood stream via the oral or sublingual route often gives immediate and dramatic relief of acute abdominal pain characteristic of infant colic.

Action and Safety: The main effect of Skopyl is peripheral. It has a particularly depressant effect on the tonus and motility of smooth musculature of the gastrointestinal tract. Because of Skopyl's high degree of selective action and favorable therapeutic index, the recommended small volume dose can generally be given with a minimum incidence of side effects.

*Editorial: New England J. Med. 260:246 (Jan. 29) 1959

Precautions: Fluid balance should be restored in dehydrated infants or those with oliguria before beginning treatment with Skopyl.
Indications: Colic (paroxysmal fussing, infantile dyspepsia, irritable crying), infantile vomiting, infantile diarrhea, pyloric spasm.
Available: 5 cc. dropper bottle. One drop=0.6 mg.; 40 drops=1 cc. Pharmacia Laboratories, Inc., 501 Fifth Avenue, New York 17, N. Y.

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- **fast** . . . clears air passages in 10-20 minutes. Relieves stuffiness, swelling, discharge. Prevents excessive post-nasal drip and resulting night cough.
- **safe** . . . Laboratory studies reveal little effect on CNS or pressor stimulation.² Minimal daytime drowsiness or interference with sleep.

1. Aviado, D. M. et al: J. Pharmacol. & Exper. Therap. 122: 406-417 (Mar.) 1958. 2. Laboratory Report: Research Div., Chas. C. Haskell & Co., 1959.

TABLETS AND SYRUP for adults and children . . .

COMPOSITION:	Per tablet	Per 5 ml. syrup
Chlorpheniramine maleate.....	4 mg.	2 mg.
d-Isoephedrine HCl.....	25 mg.	12.5 mg.

DOSE: Tablets: Adults: 1 tablet 3 or 4 times daily. Syrup: Children: 3-6 yrs. ½ tsp. t.i.d.; 6-12 yrs. 1 tsp. t.i.d. Adults: 2 tsp. t.i.d.

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help restore the normal blood picture—iron as ferric pyrophosphate to restore or maintain normal hemoglobin.

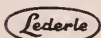
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1. J.A.M.A., 170:184 (May 9), 1959.

Ilosone® (propionyl erythromycin ester, Lilly)

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Guest Editorial

Stand and Be Counted

THIS from the head of the English department in one of the leading preparatory schools in Virginia: "It will be hard for you to believe that after eight years of elementary schooling, some of our entering students cannot select the subject and the verb in a simple sentence, have not been taught to write legibly, have written not even one short composition, and have never read a complete book—not even *Tom Sawyer* or *Treasure Island*." Such complaints are now commonplace among the secondary school teachers referring to the product sent them from the elementary (perish the word "grammar") school, and among the college teachers referring to the product sent them from the high schools.

Espousal of popular ideas and proclaiming oneself their lord, originator and defender are in the best of American tradition: to wit, x-ray is bad for you, American science is Lilliputian compared to the Soviet, etc., etc. Without question the professional American educator at the elementary, secondary school and administrative levels, has had his share of beratement, which was even more vocal and popular after Sputnik. However, the professional educator cannot take refuge in the idea that he is subject to valid criticism only from other professionals. If a physician's results are consistently bad, the layman need not know the intricacies of medicine to know that something is wrong with the doctor.

Why such an Editorial in the pages of a medical journal? Bad education can pollute the populace even more than *E. typhosa*. The effect of the latter is kill or cure; that of the former is insidiously age-long. A correlation of juvenile delinquency with reading problems, for example, has been suggested. Vigil against deterioration of education is a legitimate *professional* function of a physician, as well as a legitimate *social* function as a member of an educated group.

The doctor must stand and be counted when he sees textbooks that obfuscate when they try to simplify; attempts to sugar-coat fundamental building blocks of knowledge such as the multiplication tables in an effort to avoid painful rote, the sole process by which such rudiments can be acquired; substitution of "projects" (often the "projects" of the parents) for the academic essences, like construction of a Roman aqueduct for why the civilization fell; attempts to equate education with utility. Real life adjustment is more prone to follow real education than *vice versa*.

The most valuable thing a school has to offer, far more important than magnificent foyers, wide corridors and spacious playing fields, is mental discipline: meeting a hard task head-on and mastering it, until the spirit and joy of accomplishment reign supreme. This is the first step to scholarship. As long as this is in the saddle there is no end to achievement. We as doctors must see to it that our scarcest and most precious of natural resources, the mind, receives the nurture it needs for our survival as a free people.

Fredericksburg, Virginia

S. CALAMUS, M.D.

Stapes Mobilization Combined with Ossicular Prosthesis or Myringoplasty

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STAPEDIAL SURGERY has changed rapidly since Rosen¹ popularized stapes mobilization in 1953 and modern stapedial surgery is not a standard procedure. Surgical judgment is required to evaluate the operability of the stapes in order to apply the appropriate surgical technique.

The stapes mobilization first performed by Rosen consisted of pressure applied to the neck of the stapes and this was soon enlarged with force applied over the incus or direct pressure to the head of the stapes. With this approach, initial good results were reported anywhere from 35% to 60% by various otologists. But, as time passed, a fair percentage of those with good initial hearing improvement showed refixation and a revision of the stapes mobilization was necessary.

There has been a steady evolution of technical procedures, all with the idea to improve the initial results and prevent refixation of the sound conducting system. I have had a series of over seven hundred stapedial operations and would have had more failures than I do if I had not been able to apply one of the following surgical techniques to that individual case. I wish to show with the help of schematic slides and short case histories this gradual broadening of stapedial surgery.

The direct application of picks or chisels to the foot plate was done, knowing the possible danger of permanent injury to the endothelial system of the labyrinth. Distances between various parts of the labyrinth are excessively small; and, as a consequence, probes thrust through the stapes can easily penetrate vital parts. Dr. Barry Anson² has brought out this point quite plainly with his anatomical studies and measurements of the stapes and the surrounding vital structures, as figure 2 will show. One can see that there is no room for error, or a "dead" ear may result from trauma to the delicate endothelial structures.

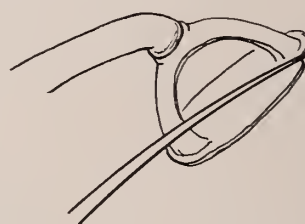
Labyrinthitis may be more severe with direct foot

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plate manipulation and permanent cochlear damage may result. The labyrinthitis need not be immediate and has been known to develop several weeks later, after an initial good result. This is most likely explained by an infection in the middle ear and in the presence of a persistent opening in the bony foot plate.

The following illustrations and short case histories with audiograms will help demonstrate the danger of labyrinthitis:



Sharp pick applied directly to anterior footplate margin.

Fig. 1. Demonstration of a sharp pick applied directly to the anterior foot plate margin to break through an otosclerotic fixation.



Fig. 2. Anatomical drawing and measurements made by Dr. Barry Anson, showing relationship of vital structures with the foot plate of the stapes.

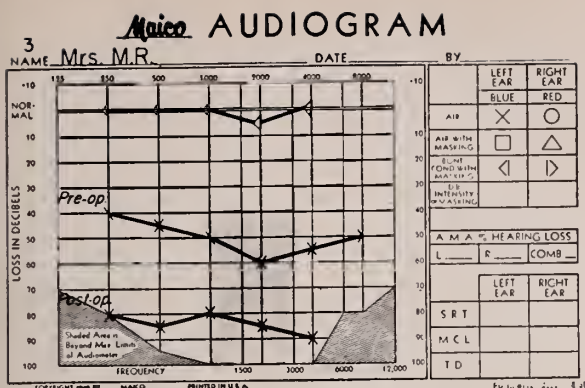


Fig. 3

Figure 3 is audiogram of a 57-year old lady with bilateral otosclerosis. A right mobilization was performed in February 1958, using the anterior crurotomy procedure. The ear has maintained its initial good improvement. Seven months later, a similar procedure was performed on the left ear, with a good hearing improvement initially. Ten days postoperatively, a labyrinthitis developed and the patient lost all hearing in the left ear. She also had trouble with positional vertigo six months postoperatively. The labyrinthitis probably developed from a low-grade infection in the middle ear and there was still a persistent opening into the perilymphatic spaces. This case also emphasizes why one should not perform a bilateral stapedial operation at the same time.

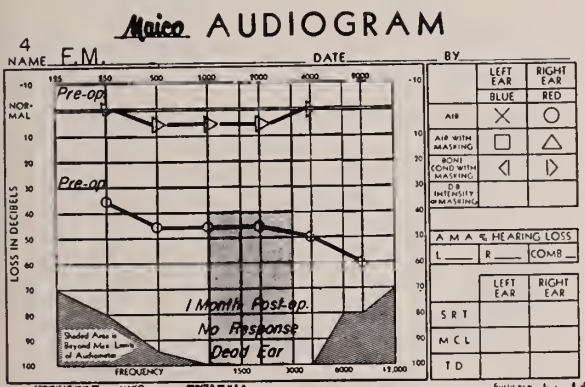


Fig. 4

Figure 4 is audiogram showing the results from an immediate traumatic labyrinthitis with pressure having been applied only to the head and neck of the stapes. A loud, hissing tinnitus was immediately noted by the patient, along with severe vertigo. The right ear showed no response to sound six months after the operation and the patient is still bothered with transitory attacks of vertigo. During the stapedial manipulation, the foot plate probably frac-

tured and a fragment ruptured the endothelial labyrinth.

Following the direct attack on the foot plate, the initial results improved; but in a fairly large percentage gradual regression from the original good result was noted and the trend of thought was to *by pass* the otosclerotic focus instead of going through it, the idea being not to touch the otosclerotic portion of the foot plate and to make a new sound conducting system using the stapedial parts not involved by otosclerosis.

Dr. Fowler³ has advocated for several years an anterior crurotomy be performed in selected cases with otosclerotic involvement limited to the anterior end of the foot plate. This procedure has most likely encouraged the other *by pass* mobilization operations. In many cases, there is widespread otosclerosis and what to do with these cases has become more and more of a problem. It was found, after operating on many of these stapes, that should both crura be fractured but still in contact with a mobile foot plate, good hearing improvement would result. Readjustment of fractured parts was found worth while. With this knowledge, Dr. Juers and Dr. Farrior Brown have used the term "crual transposition".

In cases where there is anterior and posterior involvement of the foot plate and there remains a broad area of foot plate free from otosclerosis, this idea can be put to good use.

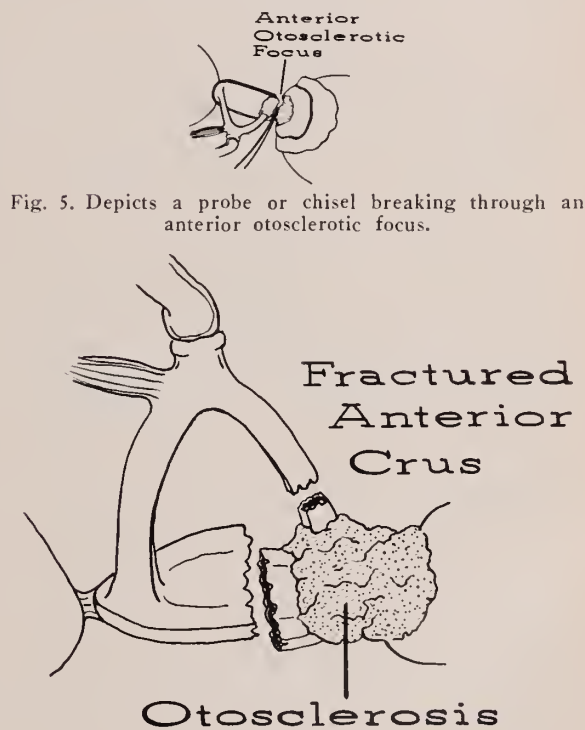


Fig. 6

Figure 6 shows an anterior cruiotomy by pass mobilization procedure. The otosclerotic focus has not been touched and sound pressure transformation to the inner ear is performed by the freely moving posterior half of the foot plate.

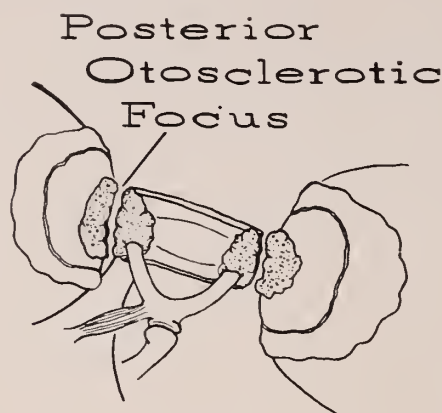


Fig. 7

Figure 7 shows both anterior and posterior otosclerosis, the foot plate having been mobilized by direct application of probes to each end of the foot plate. A good percentage of similar cases have had secondary ankylosis, thus encouraging a "by-pass" type of operation for a secondary stapedial operation.

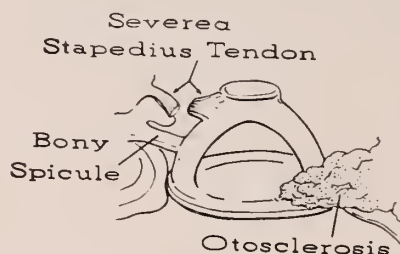


Fig. 8

Figure 8 demonstrates why it is often necessary to sever the stapedial tendon for better inspection and mobilization of the posterior half of the foot plate, it being impossible to have a good hearing improvement unless the bony spicule is removed also.

Figure 9 is a schematic view of a stapes with both crura fractured low and still in contact with the foot plate. After direct foot plate manipulation, one can expect a good hearing improvement even with bilateral crural fracture as long as the foot plate is mobile.

Figure 10 is a demonstration of a transposed crus to the center of the foot plate which is free of otosclerosis and has been fragmented. The anterior and posterior ends of the foot plate are still immobile.

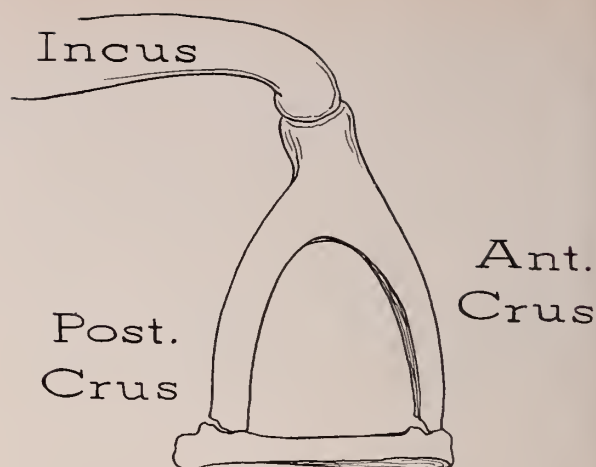


Fig. 9

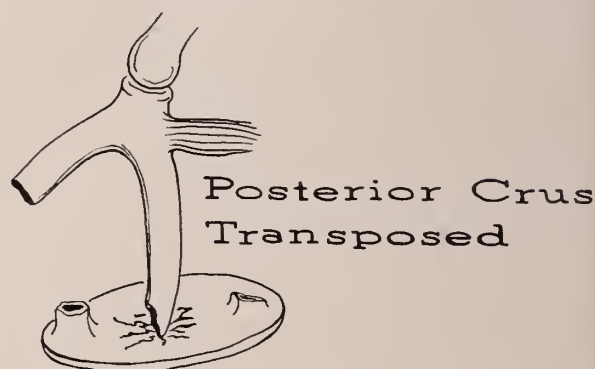


Fig. 10

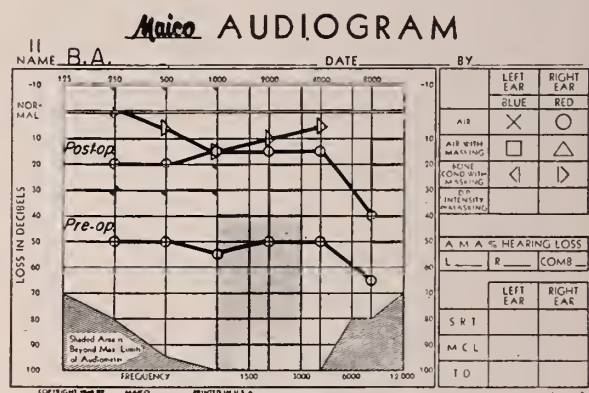


Fig. 11

Figure 11 is audiogram showing six months post-operative result following use of a crural strut. A previous mobilization had been performed five months earlier with a satisfactory improvement that had lasted for only seven weeks. The stapes was mobilized initially by direct application of probes to each end of the foot plate. The secondary procedure was performed with the use of a crural transposition to the fragmented center. A broad foot plate, both ends having reankylosed.

In a good number of cases, it was found impossible to use a remnant of the stapes for a strut and a stapedia strut of polyethylene or stainless steel wire has proved to be very useful. This substitution therapy has been quite successful in helping to perform more readily a by pass operation. After removal of the head and crus of the stapes, the entire foot plate is readily viewed and the desired foot plate surgery is more easily completed. More recently, Dr. John Shea⁴ has advocated correcting otosclerotic deafness in wide-spread otosclerosis by performing a stapedectomy and covering the oval window with a vein graft and connecting this to the incus with the help of a polyethylene strut. He has called this procedure "fenestration of the oval window". The initial results have been very encouraging, but it will be several years before this procedure can be evaluated fairly, as with any of the substitute types of stapedia surgery.

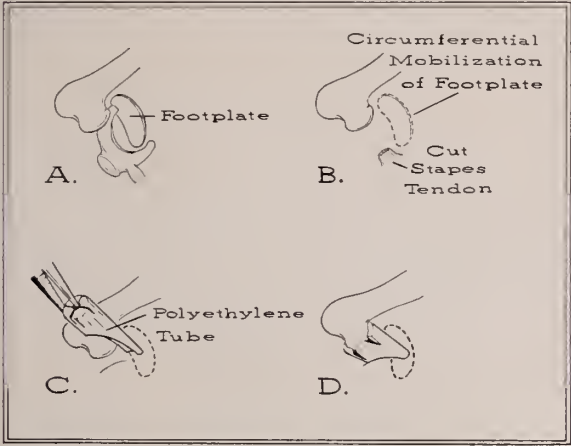


Fig. 12. A. Removal of stapes except for the foot plate. B. Readily visualized plate mobilized by circumferential probing. If suitable foot plate, only the central portion is fragmented. C. Polyethylene tube. D. Artificial strut connecting the incus and mobilized foot plate.

Figure 13 is audiogram showing six months post-operative improvement following use of a polyethylene strut. At time of surgery, both crurae were very fragile and fragmented very readily. The stapes was removed except for the foot plate which was then mobilized. A polyethylene strut was inserted.

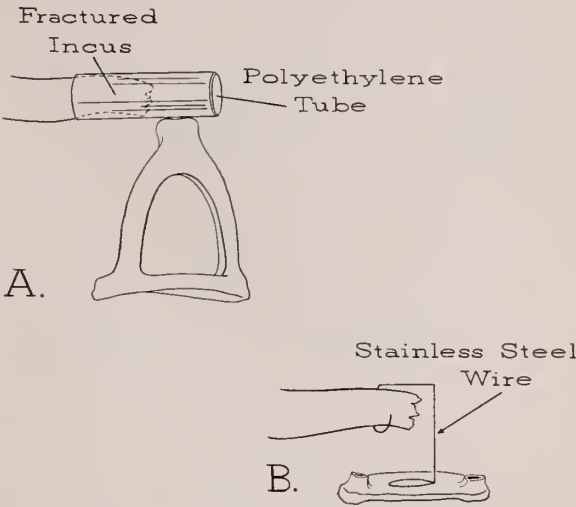


Fig. 14. A. Fractured end of the long process of the incus with no contact to the incus. A sleeve of polyethylene tubing was used for contact with the mobilized stapes. Very little hearing improvement was obtained; apparently, the "sleeve" was not in close enough contact with the incus. B. On revision, the polyethylene tube was removed along with the stapes except for the foot plate; a stainless steel wire strut was then made. The following Slide 15 shows the postoperative result.

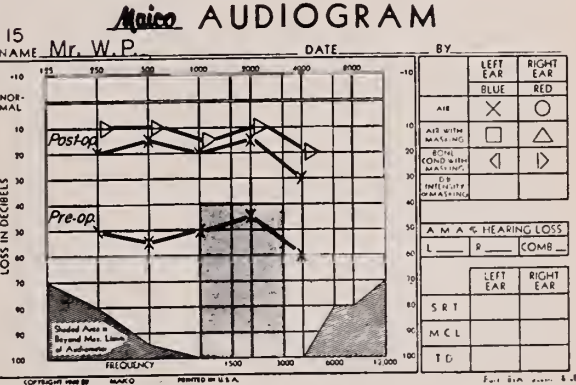


Figure 15 shows almost complete closure of the Air-Bone gap following use of .005 stainless steel wire attached to incus and in contact with mobilized foot plate of stapes.

Figure 16 is pre and postoperative audiogram of a 32-year old girl who had been deaf since the age of one, following a bilateral simple mastoidectomy. Could hear fairly well with a hearing aid in the left, but not in the right, even though repeated testing with masking showed a good cochlear response on

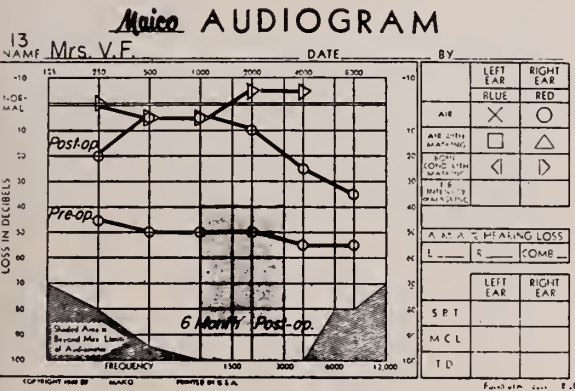
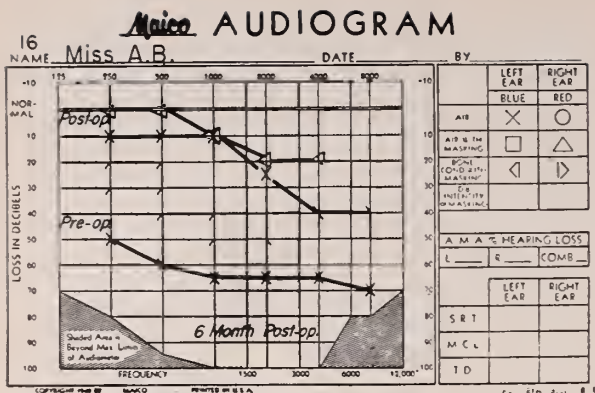


Fig. 13



the right, also. The "tube test" in the right ear was very poor, also. A left mobilization procedure was performed and the incus was found to be missing. The stapes was stiff but readily mobilized with no otosclerosis present. A polyethylene strut was used to connect the stapes and malleus. The strut was helped to be maintained in position by utilizing the Chorda tympani nerve. The hearing improvement has been maintained for ten months at the present time. After observing the left ear for six months, the same procedure was carried out on the right ear in spite of the poor tube test. No hearing improvement has been obtained from this right procedure.

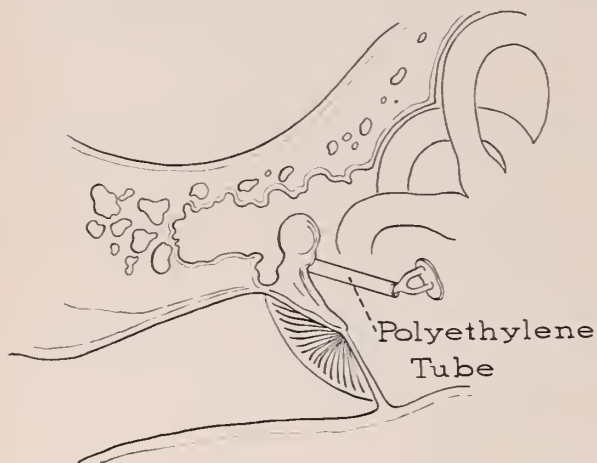


Fig. 17. Polyethylene strut, replacing incus. The incus had been removed during a simple mastoidectomy thirty-one years ago.

In some cases, stapes fixation is present but there is total or partial absence of the tympanic membrane with the rest of the middle ear and mastoid free from disease. When a temporary closure of the perforation, which gives sound protection to the round window, fails to bring about an improvement of hearing, one should consider this as proof of a co-existing

ossicular chain defect; and should attempt to correct the ossicular defect, along with the myringoplasty.⁵ This same procedure then could be classified as a tympanoplasty, Type I.

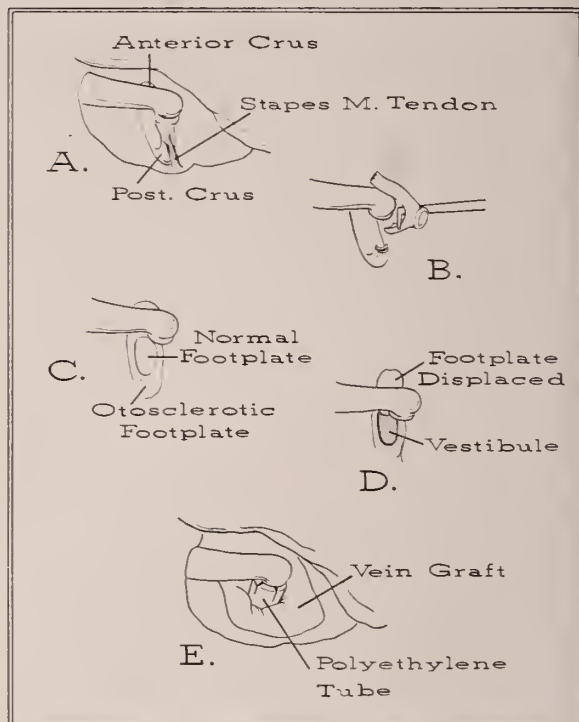


Fig. 18. Fenestration of the oval window.

- A. Fixed stapes with widespread otosclerosis.
- B. Fracture of both crura and severance of the stapedial tendon.
- C. Depicting a central area of foot plate which can be removed readily.
- D. Portion of foot plate removed, thus creating a fenestra.
- E. Vein graft in place over the oval window and connected with the stapes by using a polyethylene strut.

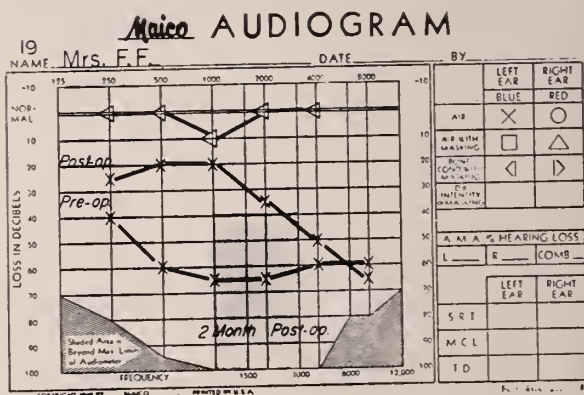


Figure 19 is audiogram 2 months postoperatively of patient with a "fenestration of the oval window". Has had a previous attempt at mobilization fifteen months prior, but unsuccessful because of a very wide-spread otosclerosis and thick foot plate. Good

improvement was obtained but some cochlear nerve damage persistent as evidenced by drop in the higher frequencies.

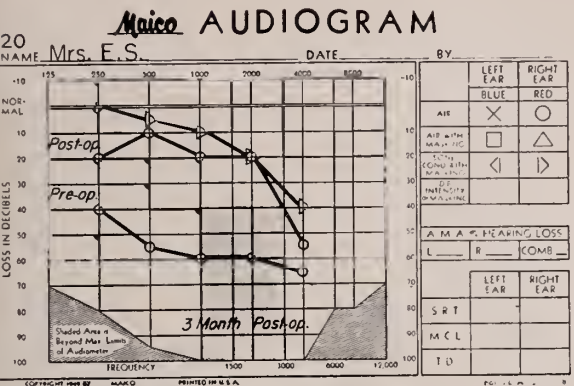


Figure 20 is audiogram three months postoperatively of a fenestration of the oval window done initially because of wide-spread otosclerosis. Any other procedure except a fenestration would probably have failed to improve her hearing. Almost complete closure of the Air-Bone gap was obtained, giving good hearing for normal conversation.

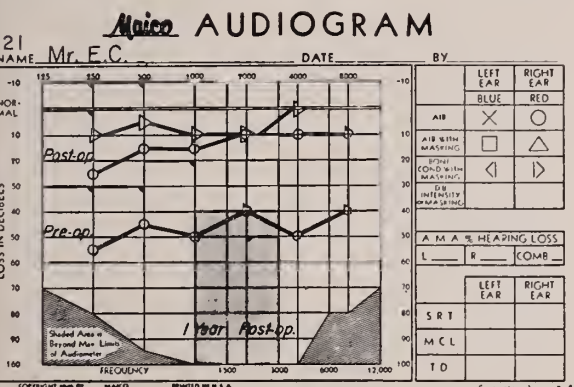


Fig. 21

Figure 21 is audiogram showing pre and post-operative levels of hearing following a stapes mobilization and a myringoplasty. The ear had been perfectly dry for years but the hearing did not improve when the large central perforation was temporarily closed with a prosthesis of vaseline and cotton. The operation was performed by the usual mobilization method after preparation of a postauricular graft. The stapes was very rigid with anterior and posterior otosclerosis. The stapes was removed except for the foot plate which was then mobilized with sharp probes. A polyethylene strut was placed into position. The remnant of the tympanic membrane was then prepared for placement of the skin graft.

One year postoperatively, he has an intact tympanic membrane with good hearing.

Figure 22 is audiogram showing results of a right myringoplasty and stapes mobilization and a left tympanoplasty Type V of three years' duration.

Right—A large, dry central perforation. A post-auricular graft was prepared and the middle ear was explored by the usual mobilization route. No

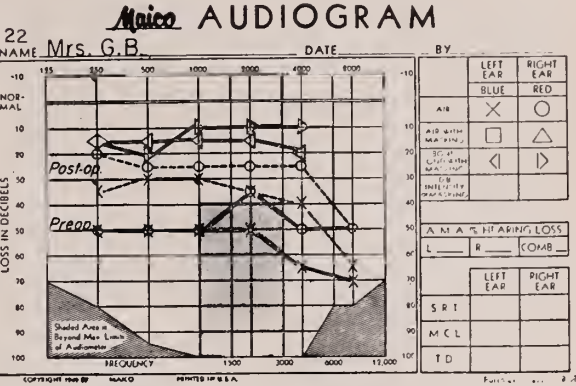


Fig. 22

evidence of disease was found in the middle ear or attic, except for a fixed stapes which was mobilized by direct head pressure. The graft was placed over the perforation after denuding the remnant of tympanic membrane of epithelium. So far, she has maintained good hearing improvement for over three years.

Left—A smaller posterior central perforation was present with evidence of cholesteatoma in the attic. While observing the right ear for postoperative care, this perforation was closed with application of trichloroacetic acid to the edge of the perforation. A fenestration of the horizontal canal was performed at a later date and a large, non-infected cholesteatoma was removed. A fenestration operation was performed initially instead of a secondary procedure because I felt that it was safe since there was no evidence of active infection. Hearing improvement has been maintained for two and one-half years.

In conclusion, I would like to state again that stapedial surgery is not a standard procedure at the present time; but various techniques have improved the over-all results.

Until we know more about the prolonged results with the use of artificial prosthesis in the middle ear, I think we should always try to use any structure that is present first. If this is not possible, it would be advisable to go ahead with a prosthesis. There has been no tissue reaction⁶ noted from the implantation of polyethylene or stainless steel wire in the middle ear. Most failures with these struts have been due to using a wrong size which give them a tendency to slip out of position.

Revision of the stapes mobilization operation is indicated only if the primary pathology is favorable and if the surgeon is prepared to go ahead with a different procedure than the original operation. Revision of the stapes is not indicated in the presence of unfavorable anatomy and pathology—such as complete bony obliteration of the oval window niche. A fenestration of the horizontal canal would be the best procedure for this type.

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Hospital Admissions

Hospitals in the United States cared for 700,000 more cases last year than in 1957, according to the American Hospital Association.

A total of 23,697,000 hospital admissions was reported in 1958 as compared to 22,993,000 in 1957, according to statistics which appeared today in the annual Guide Issue of HOSPITALS, Journal of the Association. The information was compiled from questionnaires received from 6,786 hospitals in the continental United States.

Births reported by the hospitals reached an all-time high of 3,742,000 babies born in 1958. Each day last year there were more than 1,300,000 patients and 48,000 newborn babies in hospitals.

The hospitals reported total expenses of \$7,133,-493,000 of which \$4,660,191,000 was for payroll. Total assets for all hospitals amounted to \$15,470,-017,000. The hospitals employed 1,464,829 personnel in 1958, an average of 111 personnel per 100 patients, as compared with 107 in 1957. This ratio ranged from 224 personnel per 100 patients in voluntary short-term hospitals to 34 per 100 patients in nonfederal psychiatric hospitals.

The voluntary short-term hospitals cared for 15,825,136 cases; the average patient stay in these hospitals was 7.4 days. An average of \$29.24 a day was spent by these hospitals for the care of each patient, an increase of \$2.43 over 1957.

Patients in voluntary short-term hospitals paid an average of \$1.28 a day less than it cost to care for them. Total income from patients in these voluntary hospitals in 1958 was \$3,277,242,000, while expenses were \$3,426,520,000. Patient income made up 92.6 per cent of the total income of all these hospitals in 1958, as compared with 91.2 per cent in 1957. The balance came from contributions, grants and income from such sources as endowments.

The average expenditure per day in 1958 for each patient in the nation's federal psychiatric hospitals was \$10.61. In the voluntary psychiatric hospitals the average expense per patient day was \$16.35; in the proprietary psychiatric hospitals, \$17.66; and in the state and local governmental psychiatric hospitals, \$4.11. The expenses in all these hospitals are higher than in 1957.

Wound Disruptions

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THE CREATION of this paper was not inspired by any feeling of security that we have in our particular ability to avoid the unfortunate and catastrophic occurrence of wound dehiscence. We have evaluated this complication on a year to year basis and we do not feel we have been able to materially change the ratio of occurrence of wound separation. Our technique in the handling and closing of wounds has varied from time to time contingent upon our desire to lessen this unfortunate occurrence. The surgical literature reports wound dehiscence as occurring in .02 to 3% of incidences following laparotomies. We are impressed particularly with an article by Dr. K. A. Meyer, November, 1958, in which he reviewed 11,980 laparotomies with only one wound separation, giving him an incidence of .02%. Dr. Meyer has used a single wire suture, No. 31 and 32, interruptedly.

The multitude of explanations as a factor for the occurrence of wound separation would indicate that one cardinal cause for the occurrence of this humiliating complication has not yet been completely answered. It is freely acknowledged that this complication is more prevalent in some clinics than others and it is hoped by us that a critical review of the practices and procedures of those surgeons who have this complication less often will prove helpful to us in decreasing the number of our dehiscences. Over a period of years we have varied our technique in wound closures in many ways. A few years ago we adopted a technique of interrupted sutures of varying types of non-absorbable material—cotton, silk and later interrupted wire. During this period when we were using non-absorbable material exclusively, we did not feel that there was a lessening of our wound separations. For a period we became very enthusiastic for the employment of transverse abdominal incisions. We have persisted in the use of transverse incisions in selected cases but we cannot feel that our results have been greatly changed when transverse incisions have been employed. At no time in the history of our work have we relegated the closure of wound routinely to our assistants. Rea-

sonable consideration has been given to our poor-risk patients and their preparation for surgery with the knowledge that this group of patients who have hyperproteinemia, vitamin deficiencies, along with other systemic diseases, are prone to faulty wound healing. Our great concern, however, is the occurrence of wound separation in that group of patients apparently in a good nutritional state.

It would seem to us that wound separations might well be divided into three general segments:

1. People with poor nutrition.
2. People with gross underlying pathology that is obviously capable of infecting and breaking down a wound.
3. Separations in good-risk patients.

Many well-qualified observers have ascribed the occurrence of wound dehiscence to some particular factor. Our own feeling in this matter, however, is that there must be many pertinent factors involved in the occurrence of this complication, and among these factors we record the rough handling of tissues, the insecure hemostasis, the poor selection of incisions and insecure wound closures, along with the too frequent reliance upon catgut in our wound closures. The further cause which would seem logical in the creation of this problem is faulty anesthesia, particularly at the terminal stage of surgery. Many observers believe that many wounds which ultimately disrupt actually begin separating immediately during or shortly after the completion of surgery. Abdominal distention, urinary distention, nausea, vomiting, respiratory complications, all must play a part in the creation of wound dehiscences.

The study over a five-year period of our patients have wound separations has varied percentage wise from 0.66 to 2.85%, with an average for the five-year period of the occurrence of wound separation of 1.74%. We have suffered a mortality rate in this group of patients having wound separation of 15.6%. We have no definite record of the percentage of ventral hernias following closures of our separated wounds but we feel that the percentage must be appreciable. The current literature records an overall mortality of from 11 to 35%. One must wonder just how great the overall mortality actually is in

Presented at the meeting of the Virginia Surgical Society, Williamsburg, May 2, 1959.

all of the clinics doing laparotomies, reasoning that we are not prone to generally report our unfavorable complications.

A clinical review of the symptoms of patients with wound disruptions is well recognized. Some of these people obviously do not do well immediately after surgery. They continue with unexplained abdominal distention, pain, nausea and vomiting, these complications failing to respond to the routine corrective procedures. The symptoms in this group of patients eventually culminate in an obvious dehiscence. We feel that this particular group of patients have had an early unrecognized separation. Probably early x-ray evaluation of these patients' abdomens will give positive knowledge as to whether they have their distress from an ileus or whether they have a loop of small bowel obstructed. The roentgenologists feel now that there are diagnostic signs differentiating an ileus from an obstruction. We ourselves are relying more and more upon x-ray assistance in the differentiation of ileus and obstruction.

Another clinical picture that we observed in patients who have been operated upon for fulminating peritonitis or intra-abdominal abscesses developing early wound infections, often with a necrosis in the suture line, the stay sutures losing their usefulness and the wound separating from the seventh to ninth day. Most of these patients with eviscerations are able to diagnose their own distress.

Certainly an obvious weakness in our own records is that we do not have proper bacteriological studies in many of our infected cases.

We feel that a further criticism which might well be directed to us in this particular field is that we probably have not been sufficiently careful in the meticulous control of wound bleeding as to avoid in some instances the pooling of blood in the various planes in the abdominal wall. It is a matter of interest to us to recognize that during periods when we have been truly exercised about the occurrence of wound separations, that we have been able to control to some degree its occurrence more effectively.

We desire to report three dehiscences typifying the types which we previously suggested as separate identities:

Case No. 1. Mrs. M. C., 55 year old white female, had had an attack of epigastric pain two years prior to this admission. At that time gallbladder series revealed a single stone in the gallbladder. She continued to have occasional mild bouts of indigestion, epigastric pain and fatty food intolerance. The day

prior to admission she had another episode of epigastric pain and was admitted for operation.

Physical examination revealed a well developed well nourished white female in apparently good health. Positive abdominal findings were limited to mild right upper quadrant tenderness. Examination of urine and blood was normal. X-rays again revealed a solitary gallstone with a poorly functioning gallbladder.

She underwent an uneventful cholecystectomy and operative cholangiogram. The gallbladder was moderately tense and contained a solitary stone. On the ninth postoperative day, after all sutures had been removed, she had a wound dehiscence. Following resuture of the abdominal wall she recovered uneventfully.

The pathologist's report was cholelithiasis and chronic cholecystitis.

Case No. 2. W. R., a 53 year old white male, had undergone an abdomino-perineal resection on a previous admission for adeno-carcinoma of the rectum on April 19, 1958. His progress had been good until early in June when he developed nausea, vomiting and abdominal cramps, necessitating his admission to the hospital on June 3, 1958.

Physical examination revealed an acutely ill, white male in rather poor nutritional state. Examination of abdomen did not reveal any distention. Abdominal x-rays showed dilated loops of bowel with fluid levels. Laboratory work was essentially normal.

On June 7, 1958, he underwent exploratory laparotomy. He was found to have an intestinal obstruction as result of adhesions. Postoperatively he again obstructed and was explored the second time on June 26, 1958, with lysis of adhesions. It was noted that there were mesenteric metastases from his carcinoma at both secondary operations. Ten days following his second exploration he had a dehiscence which was repaired. This wound healed slowly but the patient continued to run a downhill course of inanition, terminating in his death on September 19, 1958.

Case No. 3. Mr. A. W., 87 year old white male, underwent a cholecystectomy and common duct exploration for empyema of the gall bladder with cholelithiasis and choledocholithiasis. The gallbladder was acutely inflamed and edematous and contained "white bile". His operation was done on October 22, 1958. Seven days later he was noted to have a wound dehiscence which was repaired on October 29, 1958. There was evidence of gross infection in the wound. Two days following the wound was

Table 1
WOUND DISRUPTIONS

	1954	1955	1956	1957	1958	Totals
Cholecystectomy and Biliary Tract Surgery	83	93	99	123	100	498
Hysterectomy	53	84	82	85	97	401
Appendectomy	81	60	64	59	74	338
Gastric and Small Bowel Surgery	65	59	63	59	51	297
Salpingo-oophorectomy, Pelvic Laparotomy, Cystectomy, Ventral Suspension, Tubal Ligation, etc.	61	48	50	37	34	230
Exploratory Laparotomy	19	13	26	31	21	110
Incisional Ventral and Umbilical Hernias	27	18	36	12	17	110
Colectomy, Colotomy, Cecostomy, Colostomy and Closure of Colostomy	27	30	19	26	26	128
Caesarean Section	11	19	15	17	20	82
Abdomino Perineal	7	0	3	6	7	23
Splenectomy	2	0	2	1	1	6
Ureterosigmoidostomy	1	1	2	0	0	4
Extraction of Term Abdominal Pregnancy	0	0	0	0	1	1
Totals	437	425	461	456	449	2228
Dehiscences	3	8	4	13	11	39
Per Cent of Dehiscences	0.66%	1.88%	0.87%	2.85%	2.44%	1.74%
Mortality Rate—15.6%. Died—6						

draining large quantities of purulent material. On November 2, 1958, four days following closure of wound, he again had disruption of wound with the stay sutures floating in purulent and necrotic tissue. These were removed, the wound strapped with adhesive tape and warm saline compresses applied. Gradually the wound healed and after a stormy hospital course the patient was discharged from the hospital on January 22, 1959.

SUMMARY

1. It is felt that all patients who must undergo elective surgery should have a proper attention rendered to their nutritional state, their electrolyte balance, and due concern for their hydration.
2. We believe that the employment of non-absorbable suture material is of value in avoiding dehiscences in the cases of clean surgery.
3. The meticulous attention to wound hemostasis will certainly lessen the likelihood of retarded wound healing because the pooling of blood in the various planes of the abdomen must necessarily offer a suitable culture media for ultimate wound infection.
4. The gentle handling of wounds will result in avoidance of tissue necrosis.
5. The employment of incisions with proper regard for the nerve supply will likely prove a factor in avoiding wound separations.

Table 2
39 DEHISCENCES

19 Biliary
8 Gastric
3 (Incisional Hernia
3 (Umbilical Hernia
3 Hysterectomy
3 Colectomy (Right)
1 Tubal Ligation & Appendectomy
1 Salpingo-oophorectomy
1 Abdominal Abscess due to
Ruptured Small Bowel
Secondary to Trauma
—
39

Table 3

TYPES OF INCISIONS

26 Right Upper Rectus	66.6%
3 Lower Mid Line	7.7%
2 Left Upper Rectus	5.1%
2 Mid Right Rectus	5.1%
2 Lower Right Rectus	5.1%
1 Mid Left Rectus	2.6%
1 Upper Right Paramedian	2.6%
1 Lower Right Paramedian	2.6%
1 Mid Right Paramedian	2.6%

Table 4

NUTRITION	DAY OF DISRUPTION	AGE
Very Poor — 3	Range — 2-12	Range 35-87
Poor — 5	Average — 6.5	Average 60
Fair — 9		
Good — 18		
(Excessively obese 5)		
Indeterminate — 4		

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Saving Child from Plastic Suffocation

Three steps for saving a child who is endangered by a plastic bag have been outlined by the American Medical Association.

In addition, it listed precautionary measures to prevent suffocation by plastic bags.

Since January at least 70 deaths, mainly in infants, have been attributed to plastic bag suffocation. Many children have died while playing with the bags or while the plastic film was being used as a make-shift pillowcase, mattress cover, or blanket protector.

The A.M.A. Committee on Toxicology, as part of its environmental health activities, outlined in the August 1 *Journal*, the necessary steps to be taken if a child is ensnared by thin plastic material. They are:

1. If the child's breathing has stopped, the immediate need is to restore breathing. If possible, call a neighbor or send for help. Ask that a fire department inhalator squad be summoned and that the nearest hospital be alerted.

2. Try to resuscitate the child, using the mouth-to-mouth technique recommended as the most effective method by the American Red Cross:

—Place the child on his back and extend the neck back. Put a towel or pillow under the shoulders so the head drops back.

Lift and hold the lower jaw up to assure an open airway.

—Place the other hand on the stomach to prevent its overinflation.

—Place your mouth over the child's mouth and nose and blow in. After each breath, turn your head to the side, take another breath, and blow in again. Repeat 12 to 20 times a minute.

3. If the child is suffering labored breathing, is stunned, or has difficulty in movement, rush him to the nearest hospital.

The committee also said, "Despite the sudden awareness of the potential danger to infants and children, the convenience and utility which plastic offers as a covering material suggests that it will continue to be used."

It is therefore imperative that parents take precautions. They are:

1. Do not give plastic bags or plastic film in any form to children to play with.

2. After plastic bags and wrappers have served their purpose, destroy them.

3. Do not use plastic film as slip covers for pillows and mattresses or as blanket protectors.

An Outbreak of Disease Associated with Two Cases of Infectious Mononucleosis

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A RELATIVELY SHARP OUTBREAK of a moderately severe disease occurred in 15, or approximately one-fifth, of the student nurses housed in a single nursing school dormitory during a ten-week period starting in November, 1957. The diagnosis of infectious mononucleosis was supported by laboratory data in the first two cases. In the remaining 13 patients all efforts, including attempts to isolate an etiological agent in tissue culture and the application of the recently described rhesus agglutination test^{1,2,3}, failed to clarify the precise nature of this outbreak.

Data from these 15 cases, 10 of which have been re-evaluated six to ten months after the acute illness, and from 20 healthy dormitory contacts and from 20 age-matched healthy nursing students from another institution, are here presented and discussed.

CLINICAL ASPECTS

The first two cases are of interest since they alone showed heterophile titer and adsorption results indicative of infectious mononucleosis. One case exhibited splenomegaly, and both showed hepatomegaly. Otherwise they were not distinguishable from the other cases. All the illnesses under observation were characterized by severe fatigue, malaise, cough, sore throat, fever and adenopathy. Many of the patients complained of abdominal pain, nausea, anorexia and headache and exhibited abdominal tenderness and pharyngitis. Hepatomegaly was present in three cases and splenomegaly in one. Palatal petechiae were seen in three cases, but not in the first two cases.

All patients showed rapid subjective improvement after a few days of bed rest and symptomatic treatment but ambulation was delayed by persistent fever and abnormal liver function tests. The average period of bed confinement was 15.4 days. Cases

occurring during the first month appeared more severely ill and ran a more protracted course than those with onset later in the series. Despite gradual ambulation, five patients relapsed and required an additional period of complete bed rest while many of the remainder continued to experience mild malaise, brief febrile episodes and intermittent abdominal discomfort for several months following the acute illness.

Although clinical findings such as these may be a part of a variety of diseases of known and unknown etiology, the geographical and temporal concentration of these cases, the moderately severe incapacitation, the prolonged convalescence, and the high incidence of relapse caused real concern to the administration of the nursing school at the time and served to separate them from the usual range of poorly defined illnesses of young people. Furthermore, each case suggested to the examining physician either infectious mononucleosis or infectious hepatitis and certain features were fairly consistent. All patients were febrile, 14 showed cervical adenopathy and relatively severe malaise and fatigue, 11 experienced abdominal symptoms or showed hepatomegaly and 11 described sore throat or cough.

LABORATORY RESULTS

Laboratory data in patients (during and six to ten months after acute illness), contacts, and controls are shown in Table I. The findings in the patient group are more striking when considered in comparison to the contact and control groups and to follow-up data in those patients still accessible to the study. It is important to note that the studies on all groups were done in the same laboratory and when duplicate samples for heterophile tests were submitted to another laboratory, essentially identical results were obtained.

Although caution is indicated in interpreting these results, they suggest the following observations: (1) The 15 cases represent an identifiable group with measurable differences from the controls by a rela-

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tive lymphocytosis, presence of atypical lymphocytes, cephalin flocculation changes, and altered heterophile tests. (2) The outbreak of clinical disease may have been accompanied by subclinical infections as suggested by the higher incidence of abnormalities in heterophile and cephalin flocculation tests and the

cases, less than 10% of the leukocytes were atypical.

Heterophile titers are the highest recorded during the course of illness. Since the first two patients showed increased titers with complete adsorption by guinea pig kidneys, they fulfill the criteria for infectious mononucleosis. Cases #3 and #4 gave

TABLE I
COMPARISON OF LABORATORY DATA OF THE REPORTED GROUPS

	PATIENTS		Contacts	Controls
	During Acute Illness	After 6-10 Months		
WBC above 10,000.....	3/15	2/10	8/20	9/20
Lymphocytes above 40%.....	12/15	4/10	5/20	4/20
Atypical lymphocytes.....	13/15	1/10	10/20	4/20
Heterophile:				
Slide Test positive.....	13/15	0/8	18/20	7/19
Quantitative above 1:56.....	2/15	1/8	0/20	0/19
Bilirubin:				
Total above 1.2 mgm. %.....	7/15	1/10	0/20	Not done
Direct above 0.25 mgm. %.....	11/15	0/10	6/20	Not done
Cephalin flocculation:				
1-2 +.....	6/12	0/8	9/20	0/17
3-4 +.....	5/12	1/8	3/20	0/17
Rhesus agglutination titer:				
1:8 or less.....	5/15		4/20	10/19
1:16-1:64.....	5/15		14/20	7/20
1:128 or greater.....	5/15		2/20	2/19

TABLE II

	Atypical Lymphocytes	HETEROPHILE				M. Rhesus Agglutination
		Slide	Quantitative	Guinea Pig Adsorption	Beef RBC Adsorption	
Case 1.....	+	+	1:112	1:28	0	1:8
Case 2.....	+	+	1:448	1:56	0	1:64
Case 3.....	+	+	1:28	1:7	1:7	1:32
Case 4.....	+	+	1:56	1:14	0	1:8
Case 5.....	+	+	1:28	0	0	1:128
Case 6.....	+	+	1:56	0	0	1:256
Case 7.....	+	+	1:14	0	0	1:64
Case 8.....	+	+	1:14	0	0	1:256
Case 9.....	+	+	1:56	0	1:14	1:8
Case 10.....	0	0				1:16
Case 11.....	+	+	1:7	0	0	1:16
Case 12.....	0	+	1:14	0	0	1:4
Case 13.....	+	+	0	0	0	1:8
Case 14.....	+	+	1:14	0	0	1:128
Case 15.....	+	0				1:128

increased atypical lymphocytes in the contacts in comparison with the control group.

Table II shows atypical lymphocyte, heterophile, and rhesus agglutination data for each patient. Atypical lymphocytes were recorded as positive if noted on a routine report on the blood smear. In Case #1 they were reported as numerous and in Case #2 as 19% of the leukocytes. In the other

results intermediate between these and the remaining cases. In the contact group, 15 of the 18 which were positive by slide test showed a titer of 1:7 to 1:56, while in the control group, the seven cases which were positive by slide test all showed titers between 1:7 and 1:28. None of the patients in the contact or control groups showed adsorption characteristics of infectious mononucleosis. The only patient to

show a negative heterophile slide test and no atypical lymphocytes was Case #10. It is included in the series because of the clinical features of fever, fatigue, abdominal pain, cervical adenopathy and liver tenderness occurring in temporal relation to the other cases.

SPECIAL TESTS

Rhesus cell agglutination test—Hoyt and Morrison^{1,3} and Rubin *et al.*² reported that sera from a high proportion of patients with infectious or serum hepatitis agglutinated red blood cells of *M. rhesus* monkeys. Sera from controls or patients with a variety of other diseases, with the exception of infectious mononucleosis, infrequently demonstrated this phenomenon. Sera of some infectious mononucleosis patients did agglutinate rhesus cells but the incidence of positives was lower than with hepatitis patients.

Although the value of this test is not yet established, the results obtained in this study are of interest. The test was carried out essentially as described by Rubin *et al.*² with the endpoints determined both by evidence of clumping after gentle agitation and by clearcut positive patterns, which ever gave the higher titer. (It was found that some sera showed positive patterns without macroscopic clumping, others clumping in low dilutions and positive patterns in higher dilutions and a third group showed only clumping with no suggestion of a positive pattern.)

This test failed to distinguish clearly between patients, contacts and controls. The highest titer in the patients was 1:256. Sera from two patients with typical infectious hepatitis and one case of typical infectious mononucleosis were run simultaneously and each showed titers exceeding 1:1000.

Tissue Culture Studies—Although cell cultures have been disappointing in the study of infectious hepatitis and infectious mononucleosis, the fact that these cases did not fit well into either disease category warranted an attempt to isolate a cytopathogenic agent. Hela cells⁴ and human amnion⁵ cultures were inoculated with fecal suspensions from the last 10 patients of the series and from four cases of known infectious mononucleosis. No agent was isolated by these techniques.

DISCUSSION

The temporal and geographical concentration of cases and the over-all similarity of features argues for a single agent outbreak of disease in the student dormitory. Although, because of the heterophile

findings, Case #1 and #2 might represent sporadic cases of infectious mononucleosis unrelated to subsequent cases, we have chosen to consider the 15 cases as a group in which abnormal heterophile tests and atypical lymphocytes were prominent features.

It is tempting to consider these cases as an outbreak of atypical infectious mononucleosis introduced by two laboratory-substantiated cases. The lymphadenopathy, prolonged convalescence, respiratory symptoms, relative lymphocytosis and presence of atypical lymphocytes are in keeping with this diagnosis. The abnormal liver function tests are similar to reported cases of infectious mononucleosis⁶ except for the thymol turbidity tests which were normal in our cases. However, Liebowitz⁶ and Hoagland^{7,8} have seriously questioned the correctness of the diagnosis in previously reported epidemics of infectious mononucleosis. The observations of these two authors and the transmission experiments of Evans⁹ and others strongly suggest the low contagiousness of infectious mononucleosis and the skepticism with which reports of epidemics and subclinical cases of this disease should be viewed.

The similarity in clinical and laboratory findings in certain cases of infectious hepatitis and infectious mononucleosis is well recognized. However, the high incidence of respiratory involvement, normal thymol turbidity results, and the absence of an overt case of hepatitis differentiate our cases from anicteric cases associated with outbreaks of hepatitis and from sporadic cases as described by Domenici¹⁰ Chouret¹¹, and Kieswetter¹². On the other hand, the findings in this series are similar to the selected sporadic cases of anicteric hepatitis described by Chancey and Zatz¹³, Zimmerman and Thomas¹⁴, and Denber and Liebowitz¹⁵, and to the epidemic disease described by Wilson *et al.*¹⁶ as Ardmore disease. Examination of Tables III and IV comparing the findings in our series of cases with those of these four reports reveal many similarities. This series differs chiefly in a lower incidence of hepatomegaly and liver tenderness, normal thymol turbidity tests and more atypical lymphocytes. Furthermore, although the differential diagnosis of infectious mononucleosis was considered by each author, no case comparable to our Cases #1 and #2 was reported.

Despite the reluctance of some to apply the term infectious mononucleosis to epidemics, others feel that two forms of a very similar disease exist. Shubert *et al.*¹⁷ in a report of 27 cases and a review of previously reported epidemics of infectious mononucleosis, suggest that the sporadic form and the

"epidemic variant" are two closely allied but different diseases. In addition to the marked differences in infectivity they suggest that the "epidemic variant" is more protean in its manifestations, shows a lower percentage of lymphocytes, a lower incidence of posi-

reasonably well into the disease syndromes summarized in Tables III and IV. We are unable to arrive at a clearcut diagnosis for this group of cases, but it is pertinent to recall current experience with respiratory and enteric viral infections, where similar

TABLE III
COMPARISON OF SYMPTOMS AND SIGNS WITH THOSE OF OTHER RELATED SERIES

	Zimmerman and Thomas ¹⁴	Denber and Liebowitz ⁵	Chancey and Zatz ¹³	Wilson et al. ¹⁶	This Series
Total No. Cases.....	9	30	43	63	15
Symptoms:					
Anorexia.....	9 (100)	22 (73)	31 (72)	40 (63)	4 (27)
Fatigue and Malaise.....	9 (100)	26 (86)	39 (91)	40 (63)	14 (93)
Abdominal pain.....	9 (100)	19 (63)	41 (95)	49 (77)	6 (40)
Headache.....	7 (77)	18 (60)	41 (95)	37 (58)	5 (33)
Nausea.....	5 (55)	15 (50)	12 (28)	34 (54)	5 (33)
Cough and/or Sore throat.....	3 (33)	14 (47)*	41 (95)	42 (66)	11 (73)
Signs:					
Fever.....	>100.0	>100.0	>100.0	>98.6	>99.0
	8 (88)	14 (46)	34 (80)	63 (100)	15 (100)
Adenopathy.....	7 (77)	17 (56)	23 (54)	60 (95)	14 (93)
Abdominal Tenderness.....	9 (100)	23 (79)	43 (100)	57 (90)	6 (40)
Hepatomegaly.....	9 (100)	17 (56)	40 (93)	58 (92)	3 (20)
Splenomegaly.....		8 (27)	22 (51)	30 (48)	1 (7)
Pharyngitis or Tonsillitis.....		7 (23)	41 (95)	54 (86)	8 (53)

*May be overstated for figures actually reported are sore throat—10, Cough—4.
Figures in parentheses are percentages.

TABLE IV
COMPARISON OF LABORATORY RESULTS WITH THOSE OF OTHER RELATED SERIES

	Zimmerman and Thomas ¹⁴	Denber and Liebowitz ¹⁵	Chancey and Zatz ¹³	Wilson et al. ¹⁶	This Series
Total No. Cases.....	9	30	43	63	15
Laboratory Results:					
White Blood Cells.....	>9,000	>10,000	>12,000	>10,000	>10,000
	0 (0)	7 (25) (28)	22 (51)	15 (24)	3 (20)
Lymphocytes.....	>40%	>40%	>50%	"elevated"	>40%
	3 (38)	5 (26) (19)	22 (51)	27 (43)	12 (80)
Atypical Lymphocytes.....	0 (0)	16 (26) (61)	0 (0)	"rare"	13 (87)
Heterophile:					
Slide test positive.....					13 (87)
Quantitative above 1:56.....	0 (0)	6 (28) (21)	0 (0)	0 (0)	2 (13)
Serum bilirubin.....	*	>1.4	>1.5	†	>1.2
	2 (22)	7 (23)	0 (0)	2 (3)	7 (47)
Cephalin flocculation 3+.....	6 (67)	25 (29) (86)	7 (38) (18)	54 (86)	5 (12) (42)
Thymol turbidity 4 U.....	7 (78)	30 (100)	4 (25) (16)		0 (0)
Bromsulphophthalein 5%.....	6 (78)		6 (35) (17)	39 (62)	3 (9) (33)

*One "elevated" bilirubin and one icterus index of 17.

†The top normal is not stated; the two abnormal are 1.75 mgm. %.
Figures in parentheses are percentages.

tive heterophile tests, and the occurrence of sub-clinical cases.

In conclusion, we do not believe our cases justify either the diagnosis of infectious mononucleosis or

infectious hepatitis. Although our findings are fairly well described by Shubert's definition of "epidemic variant of infectious mononucleosis", they also fit symptoms may be caused by a variety of related

viruses. This may be true for those diseases superficially resembling infectious mononucleosis and infectious hepatitis. Our attempts to isolate an agent in tissue culture and to evaluate the rhesus agglutination test in these cases were undertaken because of this possibility.

SUMMARY

An outbreak of disease associated with two cases of infectious mononucleosis in a nursing student dormitory is reported. The illnesses were characterized by fatigue, malaise, cough, sore throat, fever and adenopathy. Laboratory comparisons of the patients, dormitory contacts and age-matched controls suggested the presence of subclinical infections. The M. rhesus red cell agglutination test failed to distinguish between the groups, and attempts to isolate an etiological agent in tissue culture were not successful. This series is discussed and compared with previous reports of similar cases in the literature.

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Match Test

The simple act of blowing out a book match has now become a medical test. It is used to measure the seriousness of airway obstruction in such pulmonary diseases as asthma or emphysema. The test is described by four Michigan doctors in the August 1 Journal of the American Medical Association.

Wheezing and prolonged expiration—the usual bedside signs of airway obstruction—do not give the necessary information to evaluate respiratory function. It is usually evaluated by two rather complicated tests requiring the use of mechanical devices, which cannot always be brought to a bedside.

The match test was devised as a simple bedside

means for checking airway obstruction. The doctors gave the match test to 126 patients with various pulmonary diseases. Next they gave the two standard respiratory function tests and then correlated the results of the three tests.

The match test, they believe, is useful as a screening procedure. If a patient is unable to blow out a match held six inches from his mouth, it is a sign he should undergo the more specific tests.

The authors are Drs. Thomas H. Snider, John P. Stevens, Freeman M. Wilner, and Benjamin M. Lewis of the Veterans Administration Hospital, Dearborn, Mich., and Wayne State University College of Medicine, Detroit.

Unusual Pneumonias

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PNEUMONIA is an acute, self-limited, inflammatory disease of the lung characterized mainly by intra-alveolar exudate, sometimes with minor secondary changes in the interstitial tissues, generally healing without significant pulmonary damage. By way of contrast, pneumonitis¹ is defined as inflammatory change in the interstitial tissues and in the bronchi (in addition to intra-alveolar exudate) with suppuration and fibrosis invariably present, usually ending in permanent structural damage. These two terms are frequently used interchangeably and yet some distinction should be made between them. Ordinarily we tend not to distinguish between bronchial and lobar pneumonia—and employing “broad-spectrum” antibiotics—seldom etiologically identify the pneumonias. Such lack of differentiation in our consideration of the pneumonias at times makes for inadequate therapy.

The ordinary case of primary pneumonia today is well treated by antibiotics in general use. From time to time the practitioner is confronted by a patient who on original examination appears to have an ordinary pneumonia but continues to be sick long after the time of anticipated recovery. Such pneumonias are not frequent but may be troublesome or even fatal. Recently a series of approximately 300 cases diagnosed and treated for pneumonia at the Touro Infirmary of New Orleans were reviewed. Among these were found several cases illustrating unusual types of inflammation with this common feature: at the onset of the original illness a diagnosis of “Pneumonia” was made and antibiotic therapy instituted by a practitioner. Only after the expected response did not occur was further study performed leading to definitive diagnosis.

ANEURYSMAL PHTHISIS

Case I.—J.P.H., a 68 year old white man, complained of hoarseness in February 1952 and reported to his physician who found a unilateral vocal

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paralysis which he could not explain. Chest x-rays and electrocardiograms were interpreted as normal. He progressively lost weight and strength and had a chronic cough. Three weeks before admission, he



FIG. 1. CASE I

consulted another physician who made a diagnosis of bronchiogenic carcinoma. Planigraphy was done, and the sectional views were believed to show a large pulmonary mass. He suddenly became stuporous and was admitted to the Touro Infirmary 8/22/54 in critical condition. 1300 cc. serosanguineous fluid were removed from the left hemithorax 8/24/54. His temperature ranged from 99 to 104. He deteriorated rapidly and expired 8/26/54. At autopsy a large saccular aneurysm of the aortic arch measuring 11 cm. in outside diameter and arising just distal to the orifice of the subclavian artery was found. The histological diagnosis was arteriosclerotic aneurysm of the aorta.

In the early years of this century “aneurysmal

phthisis" was a favorite diagnosis, especially of the consultant summoned when the patient was in dire straits. DeCosta² phrased it neatly "Pulmonary tuberculosis must be distinguished from so-called 'aneurysmal phthisis' in which cough, dyspnea and hemoptysis, foul sputum and other evidences of bronchial catarrh, bronchiectasis and pulmonary infection predominate. Compression of a bronchial tube by a deep-seated aneurysm springing from the posterior wall of the arch may account for such a symptom-group, the non-tuberculous nature of which is to be inferred if the sputum be habitually free of tubercle bacilli, if the opthamo-reaction be negative and if there be no wasting or other constitutional symptoms of phthisis. In a case of this sort, radioscopy may effectually settle the diagnosis."

DISSEMINATED LUPUS ERYTHEMATOSUS

Case II.—H.B., a 24 year old white woman, was discharged from Touro Infirmary 10/25/54 after the diagnosis of disseminated lupus erythematosus had been established. She had been treated with cortisone for a time. On her return home, she noted what she assumed to be a slight head cold but felt chilly and found that she had a 105° temperature. She was readmitted to the institution 11/5/54 and treated with Achromycin V. Her pneumonia had completely resolved by 11/12/54.

Lupus erythematosus disseminata is a chronic recurring and remitting, toxic febrile disease. Pleural

pains, cough and expectoration, dyspnea and hemoptysis may be early indications of pulmonary involvement. The customary leukopenia may give way to a leukocytosis when pneumonia begins. Hyperglobulinemia with a reversed albumin/globulin ratio, a biologically false positive Wassermann reaction, demonstration of L.E. cell phenomenon, pleural and pericardial effusions, localized accentuation of pulmonary markings radiologically with nodules, patches and extensive edema may all be witnessed during the clinical course. There is no pathognomonic pulmonary lesion in this syndrome, but pneumonia probably occurs in at least 75% of instances of L.E.

PNEUMONIA FOLLOWING STEROID THERAPY

Case III.—R.D.L., a 45 year old man, had been treated with cortisone for three years for rheumatoid arthritis. He had been known to have chronic bronchitis for many years but no disability had been entailed. On 10/4/54 there was a sudden onset of fever (104°) chills and chest pains. He was admitted to the hospital in a state of shock (blood pressure 80/40) where an x-ray showed massive



FIG. 2. CASE II



FIG. 3. CASE III

involvement of the upper lobe of the left lung; *Staphylococcus aureus* was isolated from the sputum. Because he had a minimal right apical fibrotic lesion, the suspicion of tuberculous pneumonia was entertained. No acid-fast bacilli were isolated from his sputum; so he was treated with streptomycin, achromycin and steroid hormones. His fever promptly abated, and he was discharged from the hospital

after 20 days. Presumably this was not a tuberculous pneumonia. Tuberculous pneumonia can complicate steroid hormone therapy but usually the recovery is not so rapid, there is originally more x-ray evidence of pulmonary cavitation and usually M. Tuberculosis is found in the sputum. Non-tuberculous staphylococcal pneumonias have been reported to complicate cortisone therapy.

MULTIPLE MYELOMA

Case IV.—O.D., a 45 year old white man, fractured his left forearm and femur in 1949 at which time the diagnosis of multiple myeloma was established. Urethane was given and he apparently did very well for a while. In 1941, gastric ulcer was diagnosed and treated by subtotal gastrectomy. In

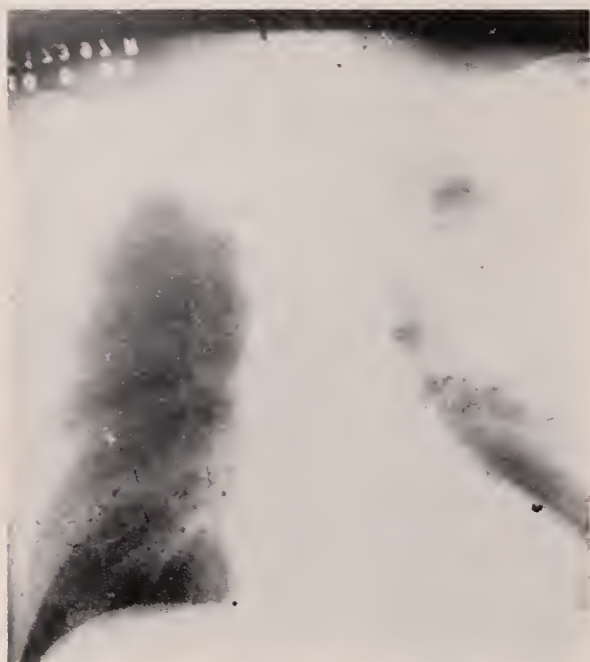


FIG. 4. CASE IV

1947, he had had severe pains between shoulder blades but no further studies were then performed. In 1945 he sustained several rib fractures in an automobile accident. His weight decreased over the years from 225 to 120 at the time of his admission to the Touro Infirmary 9/15/54. He was discharged moderately improved 11/18 but was readmitted in a terminal state 12/23/54 living only one day after admission. Bence-Jones protein was never demonstrated in his urine.

The marked tendency to recurrence of pneumonia in multiple myeloma was noted by Zinneman and Hall³ who observed 44 episodes in 10 patients. Clinical resistance to pneumonia can be correlated with appearance of antibodies to type-specific polysac-

charides and their absence linked with a diminished clinical resistance to this infection. Immune sera work only in the presence of phagocytes. Plasma cells which ordinarily produce antibodies are immature in multiple myeloma. The serum gamma globulin in multiple myeloma is apparently deficient in ability to produce antibodies. In this respect they paradoxically act as do the deficient globulins in agammaglobulinemia.

TRACHEAL ASPIRATION

Case V.—M.G., a 27 year old primigravida, vomited during the course of delivery while still under the influence of the anesthetic agent employed. About 1½ hours later, she became cyanotic and was in marked respiratory distress. An x-ray examination of the chest showed bilateral disseminated areas of pulmonary edema attributed to aspiration pneumoni-



FIG. 5. CASE V

tis. Her temperature rose to 103°, while leukocytosis (19,900 leukocytes with 85% neutrophils) was demonstrated. Antibiotics were administered, and her symptoms soon abated. A film made 72 hours later showed complete clearing of the lesions in both lungs.

TUMOR WITH INFECTION

Case VI.—L.T., a 52 year old white man, had coughed chronically an unknown number of years. Four days prior to admission his symptoms became suddenly worse: there was fever while pains involved the lower half of the right hemithorax on inspiration. The admission impression was progressive pneumonia of the right middle lobe. Bronchoscopy did not add anything to the diagnostic total; so thoracotomy was performed and a thymoma

demonstrated. It is not at all certain how long the thymoma had been demonstrable or how long it had been symptomatic. This tumor does not metastasize distantly as a rule and tends to extend locally.

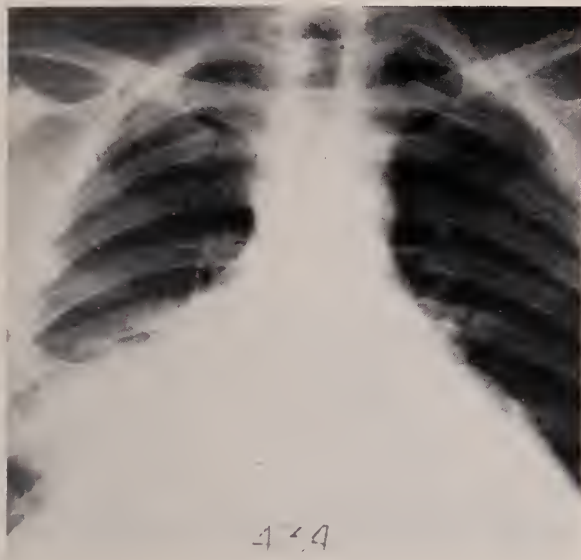


FIG. 6. CASE VI

Presumably it had been present without occasioning suspicion until it caused sufficient compression of bronchopulmonary structures with secondary infection to stimulate pneumonia.

TUBERCULOSIS

Case VII.—D.P., a 72 year old woman, had been treated for bronchiectasis many years and had had repeated intratracheal instillations of iodized oil



FIG. 7. CASE VII

for symptomatic relief over a period of fifteen years. There had been many episodes of respiratory tract symptoms with fever diagnosed as "pneumonia". One such episode began two days prior to admission, so she was brought to the hospital and given some more iodized oil intrabronchially. The areas of pulmonary inflammatory disease can easily be noted at the upper third of the right lung. When acid-fast bacilli were demonstrated in the sputum, the diagnosis of tuberculosis was established.

Bronchiectasis frequently occurs during the course of tuberculosis. Its frequency is still uncertain and it is possible that radiologists diagnose it more often than it actually occurs.

TRACHEAL COMPRESSION BY GOITER

Case VIII.—G.G., a 52 year old white woman, was admitted with severe pains at the base of the left hemithorax, cough, expectoration and 104° fever. Pneumonia of the left lower lobe was diagnosed. Eight hours after admission she went into coma with extreme respiratory tract distress. Tracheotomy was

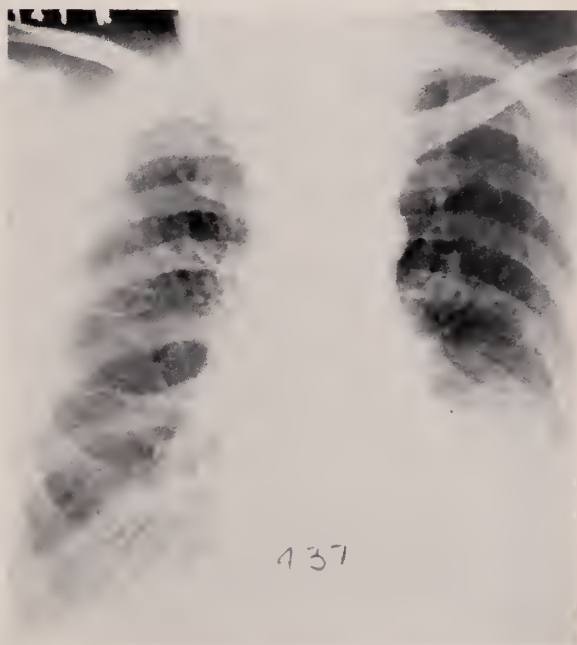


FIG. 8. CASE VIII

performed as an emergency measure to alleviate the anoxia, but improvement was only slight. On the suspicion of hyperthyroidism, Lugol's solution, propylthiouracil and ACTH were administered. Four days later, bronchoscopy was performed but no endobronchial lesion was found to explain the massive collapse of the left lower lobe. *Proteus vulgaris* was isolated from the sputum. Achromycin and streptomycin were administered continuously,

and her symptoms gradually abated. She was discharged from the hospital about five weeks following the tracheotomy, all pulmonary lesions having disappeared from radiologic view.

SUMMARY

Eight cases of unusual pneumonias are presented. The practitioner should realize that the term pneumonia is a generic one and that a proper diagnosis must include an attempt at learning etiology. If the etiology of a pneumonia is not obvious from the original examination, further studies are warranted. Certainly the diagnosis of "unresolved pneumonia" is not warranted today; a pneumonia which does not resolve promptly when potent antibiotics are administered should be studied to elucidate any possible primary factors. When pneumonia is secondary

to some other disease, obviously the seriousness of the original disease is of great importance in determining the probable clinical course.

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Home Swimming Pool Hazards

Potential danger is lurking in the American backyard. The culprit is some 125,000 home swimming pools. The danger is further aggravated by almost one million small, plastic playpools which have been placed in the nation's yards for small fry. These facts were reported in the June issue of *Today's Health*, a publication of the American Medical Association.

The article said that with tremendous numbers of children and adults swimming in their own or neighbor's back yards, more people than ever face the possibility of accident. In the past 10 years the number of home swimming pools has increased from 2,500 to 125,000. A substantial increase is expected again this year.

In addition to drownings, doctors attribute many colds, ear-nose infections, skin troubles, and other diseases to home swimming where the basic principles of water sanitation are not observed.

To overcome many of the potential dangers, the article offers a number of suggestions. These include:

—Situate the pool near the house for convenience and to permit a view of the youngster's activities.

—Fence the pool or the whole area in which it is located; use a tamper-proof lock.

—Install an alarm that is set off by any sudden water displacement, such as occurs when a person splashes into a pool.

—Keep some sort of rescue device handy at all

times. This may be a buoy or a pole.

—Make sure all pool users know how to swim.

—Run buoy lines across the pool, or build a divider or barrier, to define shallow and deep sections.

—Keep the pool clean. The swimming water should test as pure as tap water.

—Use a filter. It should be backwashed and flushed out every week.

—Add some form of chlorine to the water. Even with fresh water every day, diseases spread without chlorine.

—Water in splash pools and the smaller portables should be changed daily.

—See to it that some member of the family knows how to administer first aid, especially artificial respiration, and keep a first aid kit on hand near the pool.

—Have the pool constructed by a builder who carries guaranteed equipment, and who knows local health, building, and plumbing ordinances.

In conclusion, the article said, "Now that a family swimming pool is becoming commonplace, it is time owners took precautions for their own safety and that of others. It is time, also, that guest users pay attention to whether or not the pool they mean to enjoy is properly equipped and supervised."

The article was written by Beatrice Schapper, an instructor at New York University, New York.

Hydrochlorothiazide in Severe Congestive Heart Failure

Clinical Experience in the Treatment

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THE INTRODUCTION of chlorothiazide presented clinicians with a major improvement in diuretic agents providing an oral preparation as effective as parenteral mercurials.¹ Recently at least two chlorothiazide derivatives, hydrochlorothiazide and flumethiazide^{2,3,4} have been widely advertised as agents of much greater potency than chlorothiazide. We have studied the effectiveness of one of these, hydrochlorothiazide* in increasing renal excretion of sodium and water in patients with severe congestive heart failure. Many patients with congestive heart failure lose weight rapidly during the first week of hospitalization, under the influence of restricted activity and salt intake, and increased digitalis dosage. Diuretic agents given during this period may appear more effective than is the actual case, because of weight loss which would have occurred even without the drug. Careful attention has been paid therefore, in this study, to the pretreatment period, in order to insure adequate digitalization and levelling of the weight curve prior to hydrochlorothiazide therapy.

MATERIALS, SUBJECTS AND METHODS

Fifteen courses of hydrochlorothiazide were administered to 13 patients with congestive heart failure. All patients were in Class IV of the New York Heart Association Functional Classification. All had previously lost weight in association with increased doses of digitalis and mild salt restriction, but signs and symptoms of congestion remained. In all, weight had remained constant for three to four days prior to diuretic therapy despite digitalization to the point of toxicity.

Sodium intake during the control and diuretic period was 150 mEq daily. Hydrochlorothiazide was administered 25 mgms twice daily with increase to 50 mgms twice daily in five patients, and 100

mgms twice daily in one patient. The duration of therapy varied from six to 24 days with an average of 14 days. Blood pressure and weight were observed daily and urine volume, sodium, potassium and chloride were measured for each 24 hour period. Serum electrolytes, BUN, bilirubin, CBC and total proteins were measured approximately every four days.

RESULTS

The effects of hydrochlorothiazide on 10 patients (12 clinical courses), in whom diuresis occurred satisfactorily during treatment with hydrochlorothiazide alone, are summarized in Table 1.

Weight loss was appreciable, the average weight loss being 17.3 pounds. There was a marked increase in urine volume and in urinary sodium and chloride during hydrochlorothiazide administration. Potassium excretion increased slightly and transiently.

Serum sodium decreased in nine of the 12 clinical courses with an average decrease of 4.4 mEq/l. Serum chloride decreased in 11 of the 12 courses with an average decrease of 6.8 mEq/l. Serum potassium decreased in eight of the 12 courses with an average decrease of .6 mEq/l. Serum bicarbonate increased in 11 of the 12 courses with an average increase of 3.1 mEq/l. One patient, F. C., developed asymptomatic hyponatremia, (serum sodium 125 mEq/l) and hypochloremia, (serum chloride 89 mEq/l) after five days of treatment with hydrochlorothiazide 25 mgms twice daily. Continued administration of hydrochlorothiazide did not result in any further change and serum sodium and chloride returned to their pretreatment level following cessation of hydrochlorothiazide. Zatuchni⁵ also reported hyponatremia in two patients following hydrochlorothiazide therapy in doses of 50 mgms four times a day, which was considerably greater than doses administered to our patients.

A considerable drop in blood pressure was noted, the average systolic/diastolic drop in the 10 patients

*Supplied as Esidrix through the courtesy of Dr. Harold Bornhold, Ciba, Inc., Summit, N. J.

TABLE I
DIURETIC EFFECTS OF HYDROCHLOROTHIAZIDE

Patient	Age	Cardiac Diagnosis	Hydro- Chlorothiazide mg./24 hrs.	Days of Treat- ment	Weight (Lbs.)		Weight Change (Lbs.)	Electrolytes				mEq./Litre		Side Effect			
					Before Therapy	After Therapy		Sodium	Potassium		Chloride		Bicarbonate				
									Control	Lowest	Control	Lowest	Control		Lowest	Control	Highest
J.M.	39	Hypertensive Heart Disease	50	13	206	185	-21	143	4.3	4.5	111	28.3	32	None			
L.S.	66	Arteriosclerotic Heart Disease	50	7	145	123	-22	134	5.4	5.0	106	23.8	22.8	None			
E.L.	51	Idiopathic Heart Disease	50	13	178	154	-24	137	4.9	4.9	106	23.6	27.0	None			
L.E.	62	Arteriosclerotic Heart Disease	50 100	9 12	138	116	-22	136	5.0	5.8	97	29.7	30.8	None			
A.T.	64	Hypertensive Heart Disease	50	20	205	173	-32	137	5.4	4.2	100	28.0	31.0	None			
L.H.	67	Arteriosclerotic Heart Disease	50	6	143	137	-6	140	6.1	5.3	102	29.5	31.0	None			
C.S.	64	Hypertensive Heart Disease	50 100	10 3	177	168	-9	137	6.0	5.0	105	24.3	28.0	None			
W.M.	63	Hypertensive Heart Disease	50	8	193	184	-9	131	4.0	3.9	92	27.6	34.8	None			
L.E. 2nd	62	Arteriosclerotic Heart Disease	50	18	143	115	-28	137	5.2	5.1	102	29.6	30.7	None			
L.M.	64	Hypertensive Heart Disease	50 100	5 11	127	112	-15	133	5.4	4.9	108	26.4	27.9	None			
W.M. 2nd.	63	Hypertensive Heart Disease	50 100	4 4	186	176	-10	129	4.1	4.4	92	27.6	32.6	None			
F.C.	61	Lactic Heart Disease	50 100 200	6 14 4	133	124	-9	138	4.9	4.0	101	29.6	31.4	None			

(12 courses of hydrochlorothiazide) treated only with hydrochlorothiazide was 42/20 mm Hg. No toxic effects attributable to hydrochlorothiazide were observed. Complete blood counts and bilirubin deter-

E.L., a 51 year old Negro male with idiopathic heart disease, was admitted in severe congestive heart failure, manifested by exertional dyspnea, orthopnea, paroxysmal nocturnal dyspnea and

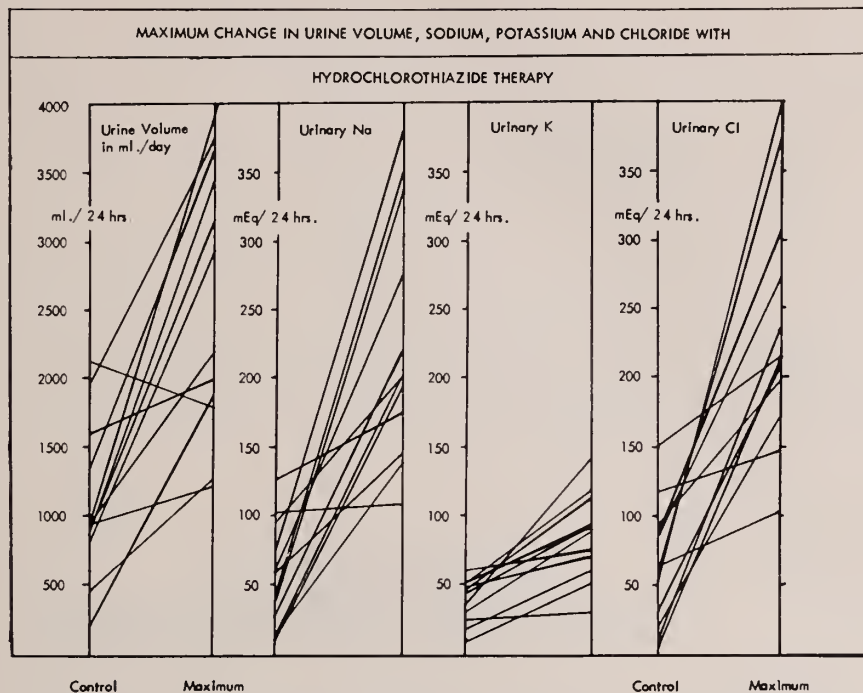


Fig. 1.—Maximum changes in urine volume and electrolyte excretion. The control value is the average of two 24 hour collections during the control period and maximum value is the maximum 24 hour excretion which occurred during hydrochlorothiazide therapy.

minations revealed no hematological or hepatic dysfunction.

In addition to the 10 patients described above, three other patients who were unresponsive to meralluride were treated with hydrochlorothiazide. The first patient had complete heart block and was not given digitalis because of previous adverse effects. One injection of meralluride was given without effect. Hydrochlorothiazide 25 mgms twice daily, was then started. Because of his critical condition, meralluride was again given the following day and at intervals of approximately three days. The combination resulted in weight loss of 19 pounds and clinical improvement. The other two patients were unresponsive to meralluride and hydrochlorothiazide separately but lost weight when they were given together. The effect was of a temporary nature only in these two patients who quickly returned to the pretreatment status while combined therapy was continued.

CASE REPORT

One case will be presented briefly as an example of the response to treatment with hydrochlorothiazide.

pitting edema of the lower extremities of two months duration. He had been hospitalized eight months previously for congestive heart failure and was treated successfully with digitalis and a regular diet without added salt. Despite adherence to this regimen, he developed signs and symptoms of congestive heart failure. He was given increased amounts of digitalis and sodium intake was limited to 150 mEq daily, but he lost only three pounds. Hydrochlorothiazide therapy was started, 25 mgms twice daily, and the results are shown in Figure 2. He lost 24 pounds over a period of 13 days. Urine volume increased markedly. Urine sodium excretion increased to a maximum of four times that of the control level and remained twice that of the control level throughout the 13 days of treatment. Urine chloride excretion was similar to that of sodium. Except for one day (2nd day of treatment), urine potassium excretion was unchanged during the period of treatment.

DISCUSSION

Hydrochlorothiazide is a recently synthesized sulfonamide derivative of the benzothiadiazine group.

It differs from chlorothiazide only in the addition of two hydrogen atoms to the heterocyclic ring. Structural formulas of both agents are shown in Figure 3.

also showed hydrochlorothiazide to be an antihypertensive but not a hypotensive agent, that is it did not lower the blood pressure in normal people.

Our studies indicate that hydrochlorothiazide,

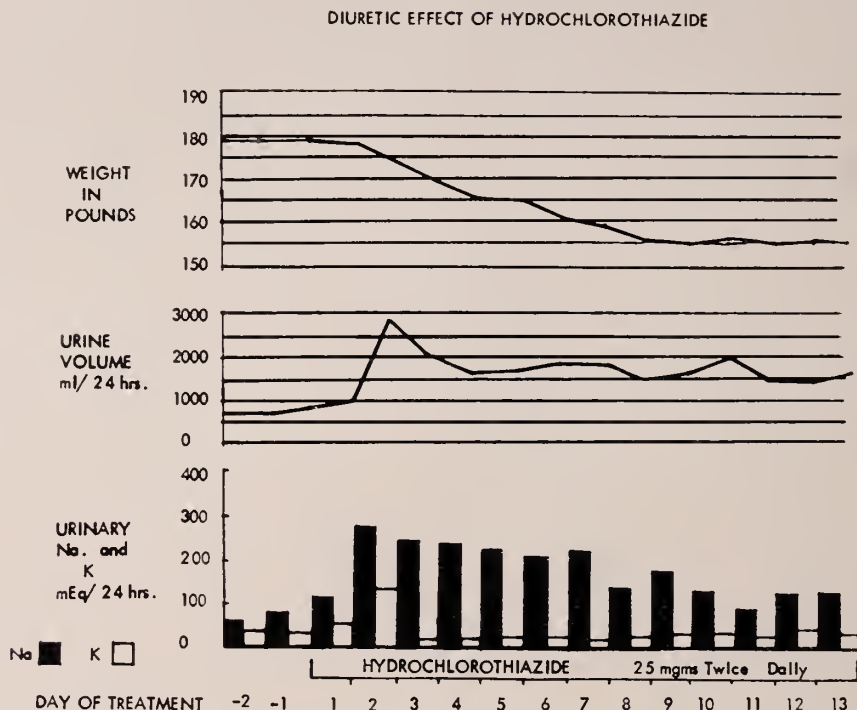


Fig. 2.—E.L., 51 year old, Idiopathic heart disease, with congestive failure refractory to digitalis therapy. Note weight loss, diuresis, increased Na, and to a lesser extent K excretion, beginning on the first day of hydrochlorothiazide therapy.

COMPARISON OF STRUCTURAL FORMULAS OF CHLOROTHIAZIDE AND HYDROCHLOROTHIAZIDE

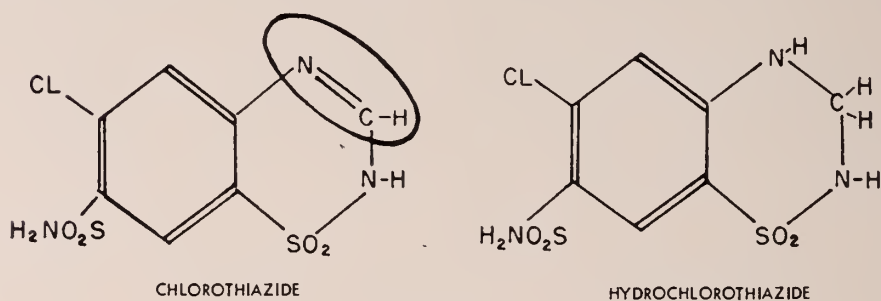


Figure 3.

Ford² reported hydrochlorothiazide to be a safe diuretic, at least 20 times more potent (on a weight of drug basis), than chlorothiazide. Ford² and Zatuchni⁵ found the predominant effect of hydrochlorothiazide to be on the excretion of sodium and chloride with lesser effect on potassium and bicarbonate. Moyer et al.,⁷ demonstrated that hydrochlorothiazide was an effective natriuretic and chloruretic agent, the chloruretic effect appearing to be greater than the natriuretic effect. Zatuchni⁵

administered to patients in severe congestive heart failure in doses of 50 to 100 mgm daily, is a potent, safe, oral diuretic. Urine electrolyte studies demonstrate that hydrochlorothiazide markedly increases renal excretion of sodium and chloride and to a lesser extent potassium. The natriuretic and chloruretic effect were similar, in contrast to the studies of Moyer⁷ and Zatuchni⁵ who noted a chloruretic response greater than the natriuretic response.

A considerable rise in blood urea nitrogen was

noted in three patients who had hypertensive cardiovascular disease. Corcoran et al.⁶ noted a rise in blood urea in six of eight hypertensive patients in whom the renal hemodynamic effects of chlorothiazide were being studied. They noted that the increase seemed to be greater than would be predicted from the concurrent decrease in glomerular filtration rate. The cause of this rise in blood urea is unknown.

All of the 10 patients treated only with hydrochlorothiazide (12 courses) showed a reduction in blood pressure, the average systolic/diastolic drop being 42/20 mm Hg. Freis⁸ showed that chlorothiazide, given to non-edematous hypertensive patients, was followed by increased sodium excretion, a reduction in extracellular volume and a fall in blood pressure. The blood pressure drop in our patients with congestive heart failure accompanied the weight loss, and presumably was associated with reduction in extracellular fluid.

SUMMARY

Fifteen courses of hydrochlorothiazide were administered to 13 patients with severe congestive heart failure. In all cases (except one patient with complete heart block), digitalis had been administered in maximum amounts, salt intake had been limited to 150 mEq of sodium daily and weight had been constant for four days prior to use of hydrochlorothiazide. The addition of hydrochlorothiazide alone resulted in weight loss in 10 of the patients (12 courses). Three patients who did not respond to

meralluride alone, lost weight satisfactorily with meralluride and hydrochlorothiazide.

In this series, hydrochlorothiazide was found to be a safe and potent oral diuretic. The effective dosage was 50 to 100 mgms daily in divided doses.

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Accidents Don't "Just Happen"

They're often caused by the driver's attitude at the wheel! Some drivers feel the other fellow is always wrong. Some drivers are aggressive and intolerant when they slip into the driver's seat. Some drivers act with reckless abandon when they sense

the force of 250 horsepower at their toes.

But accidents aren't always somebody else's fault. Check *your* attitude. Be mature! You'll be a better driver—and a far safer one.

Nutmeg Poisoning

ROBERT C. GREEN, Jr., M.D.
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THE PRESENT-DAY use of nutmeg (*Myristica fragrans*) is confined largely to exploitation of its properties as a flavoring agent. In the past it has been used medicinally as an aromatic stimulant, a carminative and a narcotic. In England and India it has been used widely by the laity as an emmenagogue and an abortifacient, and from these uses came many reports of nutmeg poisoning in the early literature. During the last half-century, nutmeg poisoning seldom has been reported, and only limited information is available concerning the physiologic and biochemical effects of this particular toxic state.

REVIEW OF THE LITERATURE

One of the earliest cases of nutmeg poisoning was recorded by Lobelius in 1576.¹ In 1832 Purkinger² dramatically illustrated the toxic effect of this kernel by self-administering three nutmegs and producing a narcosis which progressed to stupor. In 1903 Wallace³, in a review of nutmeg poisoning, reported 25 cases from the world literature. Although one of the persons concerned died⁴, those in the remaining 24 cases recovered promptly without residual effect. Since Wallace's review a limited number of cases of nutmeg poisoning have been noted in the literature. These more recent reports are brief, clinical description is meager and laboratory studies are not included. However, they are of interest and are presented in detail below.

Case 1. Reported by Bartlett⁵—A young woman took one ground nutmeg* in a glass of hot beer in an attempt to induce abortion. Four hours later she became restless and excited. She complained of difficulty in breathing, tightening of the throat and stiffening of the entire body. In addition, she noted headache, giddiness and pain in the stomach. Examination revealed rapid respiration, flushed face, a pulse of 130 beats per minute, and a temperature of 98.6° F. The pupils were dilated but reacted normally to light, and accommodation was satisfactory. The knee reflexes were exaggerated. She was treated symptomatically and slept heavily through the night.

From the Medical Service, Community Memorial Hospital, South Hill.

Presented at the annual meeting of The Medical Society of Virginia, Richmond, October 12-15, 1958.

*One average-size nutmeg weighs approximately 5 gm.

The next day she felt drowsy and giddy. Abortion did not occur.

Case 2. Reported by Hammond⁶—A 34-year-old woman took a crushed nutmeg in water for menstrual irregularity. Three hours later she became giddy, was unable to stand and complained of feeling queer. She noted the sensation of weight on her chest, and vomiting occurred. Examination revealed her to be conscious but in a state of collapse. She was pale; her extremities were cold and clammy. The pulse was 98 beats per minute. The respiration was shallow, rapid and irregular, and the pupils appeared to be normal. Therapy consisted of the use of strychnine, whisky and general supportive measures. The next day she was well, complaining only of weakness.

Case 3. Reported by Hamilton⁷—A woman took one nutmeg in an attempt to induce abortion. Symptoms of restlessness, giddiness and a sense of impending death developed. She then went into a state of collapse. Examination revealed cyanosis of the lips, fingernails and coldness of the extremities. The face was flushed and there was choreic spasm of the lower jaw and larynx. Prompt recovery followed, although abortion took place one month later.

Case 4. Reported by Wilkinson⁸—A 23-year-old woman took one ground nutmeg with a glass of stout in an attempt to induce abortion. Four hours later intense headache, abdominal pain and giddiness developed, and unconsciousness ensued. She was admitted to a hospital seven hours after taking the nutmeg. At this time she complained constantly of her head, and was restless and excited. She was unable to answer questions. Examination revealed her face to be flushed; her pulse was 120 beats per minute and the pupils were normal. The abdomen was reported as tender, especially in the area of the descending colon. There was no rigidity. The next day the pain and headache had disappeared, but some giddiness remained. Abortion did not occur.

Case 5. Reported by Johnson⁹—A woman took one large grated nutmeg in an attempt to produce abortion. Ten hours later she complained of restlessness, giddiness and a great fear of impending death. She became delirious and described her head as being many times its normal size. Vomiting occurred sev-

eral times. Examination revealed redness and edema of her face and eyelids. Cyanosis of the lips and nail beds was noted. Her temperature was 103°F. Treatment consisted of the administration of quinine and aperients. The patient returned to work in five days. Abortion did not occur.

Case 6. Reported by Gibbins¹⁰—A 22-year-old man ate a milk pudding containing one quarter of a moderate-sized nutmeg. Within a few minutes he noted flushing of the face, with itching and bleeding of the nose. This was followed by abdominal pain and vomiting. He became unconscious and remained in this condition for a half-hour. Examination revealed swelling of the lips and eyelids. The pupils were contracted. The extremities were cold and appeared cyanotic. The pulse was rapid and faint. The heart was pounding and irregular. A half-hour after the initial examination the face was still swollen and itched slightly. The cyanosis subsided and was replaced by a flush. All symptoms disappeared except a slight drowsiness. The next day he was asymptomatic.

Case 7. Reported by Pitter¹¹—A woman took a whole grated nutmeg in a wine glass of gin in an attempt to produce abortion. One hour later she was found in a state of collapse, muttering unintelligibly. Examination revealed her pupils to be dilated, but reacting feebly to light. Her extremities were clammy and her pulse was barely perceptible. After gastric lavage she remained in a muttering delirium throughout the night, and slept heavily the next day. She awoke on the second day, apparently recovered. Abortion followed.

Case 8. Reported by Reekie¹²—A woman took one ground nutmeg on an empty stomach for menstrual irregularity. Five hours later she was in a state of collapse. Examination revealed that her skin and extremities were cold. The face was flushed and mottled. The temperature was 95°F. The pulse was 50 beats per minute and was feeble. Respiration was 30 to 40 per minute, and every second breath was a sigh. Treatment consisted of the use of strychnine and ammonium carbonate, as well as spirits of ether and chloroform. The patient's pulse and temperature returned to normal in 24 hours, and she appeared to be fully recovered.

It is apparent from these reports, and those of Wallace, that only limited observation on nutmeg poisoning is available. Therefore, it was felt that a detailed report of such a case from the author's experience would be of interest.

REPORT OF A CASE

A 28-year-old married colored woman was admitted to the Community Memorial Hospital in South Hill, Virginia, in a semistuporous condition. The medical and psychiatric history up to this time had been normal. She had been married nine years and had experienced two uneventful pregnancies. At 10 p.m. the night before admission to the hospital she had eaten 18.3 gm. of finely ground nutmeg in an attempt to induce the menses, which had been delayed two days. She had slept soundly without disturbance until 5:30 a.m. the next day. At that time she had been awakened by a burning sensation in the lower part of the abdomen and an overwhelming feeling of impending death. She vomited once. Her legs felt as if they were asleep and she complaining of feeling "funny all over". She then had become completely disoriented, with episodes of wild screaming and purposeless thrashing of the arms and legs. Coordination appeared absent. Interspersed in this period of disorientation were brief moments of lucidity during which she seemed to be aware of her surroundings. From the time of her awakening at 5:30 a.m. until 9:30 a.m., when she was seen by her local physician, there were three intervals of lucidity, each lasting approximately 10 minutes. The remainder of this time she was delirious and in a state of excitement and agitation.

This patient was admitted to the hospital at 11:30 a.m., approximately 13 hours after she had taken the nutmeg. On admission she was in a semistuporous state. She could be aroused to talk, but would immediately return to the semistuporous condition. The skin was cool but not clammy. There was no cyanosis. Blood pressure initially was 100 systolic and 50 diastolic, expressed in millimeters of mercury. The pulse rate was 100 beats per minute, the temperature 98°F. and respiration was 24 per minute. The pupils were small and reaction to light was not visible. The thorax was clear to auscultation, palpation and percussion. The heart was not enlarged and there were no murmurs. The abdomen was not tender and the liver, spleen and kidneys were not palpable. The extremity reflexes were absent. Pelvic examination revealed evidence of beginning menstrual flow. Results of rectal examination were negative. The erythrocyte count was 3,710,000 per cubic millimeter of blood and the value for hemoglobin was 68%. The leukocyte count was 7,400 per cubic millimeter of blood, 87 per cent of the cells being segmented neutrophils and 13 per cent lymphocytes. Results of the serologic tests of

the blood was negative. Specific gravity of the urine was 1.020; the hydrogen-ion concentration was acid. Albuminuria was graded 2+; there was neither sugar nor bile. The value for carbon dioxide was 14.9 mEq. per liter of plasma. The content of sodium was 126 mEq. per liter of serum and of chlorides, 108 mEq. per liter of plasma. The concentration of potassium was 3.8 mEq. per liter of serum. The value for nonprotein nitrogen was 47 mg. per 100 cc. of serum.

The patient remained in a semistuporous condition for 12 hours after her admission. She then began to experience episodes of wild excitement, with loud screaming and manifestations of a fear of impending death. She continued to be subjected to episodes of excitement for two hours, during which time restraints were needed. During the remainder of the second day she was restless, but essentially quiet. During the third and fourth day of hospitalization she slept much and complained constantly, while she was awake, of a generalized feeling of numbness and dizziness.

Laboratory investigation on the third day revealed the value for nonprotein nitrogen to be 36.5 mg. per 100 cc. of serum. The specific gravity of the urine was 1.020; the hydrogen-ion concentration was acid. There was no albuminuria, sugar or bile. The result of the bromsulphalein test was 10.5 per cent retention of dye in 30 minutes. The direct bilirubin was .05 mg. per 100 cc. of serum; the total bilirubin was 0.35 mg. per 100 cc. of serum. The reaction of the cephalin flocculation test was graded negative. On the fourth day of hospitalization the result of a phenolsulfonphthalein test was recorded as 77 per cent excretion of the dye in 2 hours. Urine obtained during this test had a specific gravity of 1.002; there was no sugar, albumin or bile. Total proteins amounted to 6.1 gm. per 100 cc. of serum, with 4.5 gm. of albumin and 1.6 gm. of globulin. The prothrombin time was recorded as 100 per cent. A transthoracic procedure to obtain hepatic tissue for biopsy was done at this time. Microscopic sections of the tissue showed no evidence of fatty infiltration or hepatic-cell necrosis.

On the fifth hospital day the patient complained of nausea, dizziness and generalized numbness. At intervals throughout this day she became restless and noisy, and frequently expressed a fear of imminent death. These symptoms persisted intermittently with decreasing frequency and intensity through the sixth day. In between these episodes she appeared essentially normal.

She was discharged on the seventh hospital day. Laboratory studies at that time revealed retention of bromsulphalein dye to be 8 per cent in 30 minutes. The specific gravity of the urine was 1.024. There was a trace of albuminuria, but no sugar or bile. The hydrogen-ion concentration was acid. The direct bilirubin was 0.15 mg. per 100 cc. of serum and the total bilirubin was 0.95 per 100 cc. of serum.

The patient returned for follow-up studies 10 days after discharge. At that time the results obtained from a complete blood count, urinalysis, and cephalin flocculation, bromsulphalein and serum bilirubin tests and determination of nonprotein nitrogen remained essentially unchanged from those recorded at previous procedures. She reported that she was without symptoms of any kind. Because of the limited information available concerning nutmeg poisoning, no specific therapy was given in this case except for intramuscular injections of promazine hydrochloride during periods of excitement.

COMMENTS

On the basis of data in this case and in those noted from the literature, it is apparent that nutmeg taken in moderate quantities may produce a serious toxic state and possibly death. To obtain a clearer understanding of the problem, the pharmacological and chemical features of nutmeg will be discussed as well as the clinical syndrome resulting from ingestion of the substance in toxic amounts. Because of the almost total absence of interest in this subject in the recent literature, all information concerning the properties of nutmeg have come from a limited number of early studies.

Pharmacologic Aspects. Wallace reported that the toxic factor of nutmeg is confined entirely to the volatile-oil component. He administered this oil (0.4 gr. per kilo gram of body weight) to cats by a stomach tube and produced a striking clinical response. Within 10 minutes he noted restlessness, excitement and excessive salivation. These signs were followed by a period of quiet associated with incoordination and staggering. Mydriasis usually was noted at this time. The reflexes became weakened and a condition of semiconsciousness supervened during which respiration was labored and feeble. In some animals unconsciousness deepened, respiration became labored and feeble and death occurred 8 to 12 hours after ingestion of the oil. Usually, however, after the stage of unconsciousness had developed, gradual improvement occurred, and approximately 15 hours after the oil had been given

the animal appeared to return to normal. This improvement generally was temporary; the animal then gradually weakened and within 36 to 72 hours after administration of the oil coma developed and death followed. Necropsy of these animals consistently showed advanced fatty degeneration of the liver.

Dale¹³ and Jurss¹⁴, using myristicin, a constituent of the volatile oil, were able to reproduce in animals symptoms identical to those caused by the administration of the nutmeg or the volatile oil of nutmeg. They concluded that myristicin is the toxic factor in nutmeg. Necropsy of their animals showed changes in the liver similar to those described by Wallace.

Chemical Aspects. Nutmeg is known to contain from 5 to 15 per cent volatile oil, 25 to 40 per cent fixed oil and 5 to 15 per cent of ash. The remainder is starch, fiber and water.¹⁵ Power and Solway¹⁶, in an analysis of this volatile oil, found that 4 per cent was myristicin. They noted that the formula for myristicin is $C_{11}H_{12}O_3$ and it is 5-allyl-1-methoxy-2,3,-methylenedioxybenzene. Further analysis of the volatile oil revealed 80 per cent to be dextrocamphene and dextropinene, with 8 per cent dipentene. Also noted were small amounts of eugenol, iso-eugenol, lenalool, borneol, terpinol, geraniol and safrol. In addition, they isolated limited amounts of free myristic acid and traces of esters of this and other fatty acids.

Clinical Aspects. It is apparent from this case and those previously reported that nutmeg in doses of 5 gm. or more will produce a characteristic clinical syndrome. From one hour to seven hours after the ingestion of nutmeg, symptoms of a burning, midabdominal pain, with or without vomiting, may occur. Restlessness, giddiness and excitement may be noted. Frequently a fear of impending death is reported and often there is a complaint of a sensation of a heavy weight on the chest. During the next 10 hours drowsiness progressing to stupor may develop. However, the patient can be aroused; if this is done, delirium and agitation ensue; then the patient sinks again into stupor. Some patients may not manifest the early symptoms of toxicity but may display only the late narcotic effect. As a rule recovery is complete within 24 hours. However, large doses of nutmeg may prolong recovery, and periodic outbursts of excitement with delirium may continue for several days or more.

Significant physical findings may include a decrease in blood pressure, with cyanosis and shock. In addition, there may be rapid respiration, tachy-

cardia, dilation of the pupils and decreased-to-absent peripheral reflexes.

Several of the early reports suggest that some patients may exhibit, in addition to the usual symptoms and signs, an acute allergic response to nutmeg. This response is manifested by edema of the eyelids, with marked flushing and itching of the face. There also may be an elevation of temperature. These symptoms of an allergic reaction apparently subside quickly.

Some of the laboratory findings in the case I have reported are not entirely understood. Since previous studies did not contain laboratory reports, the chemical determinations recorded in the present case are difficult to evaluate. In this case acidosis was noted with depression of the values for sodium and potassium. The content of chloride was within the normal range.

On the basis of the experimental work on cats by Wallace, Dale and Jurss, it appeared that fatty degeneration of the liver was the end result of toxic doses of the volatile oil or the derivative thereof: myristicin. However, in the case reported herein serial studies of hepatic function as well as biopsy of tissue from the liver revealed no evidence of damage to that structure.

Studies of renal function revealed an initial slight elevation of the value of nonprotein nitrogen as well as albuminuria of grade 2+, although the output of urine during the first 24 hours was normal. The value for nonprotein nitrogen returned to normal the next day and subsequent urinalyses disclosed occasional traces of albumin. It seems probable that in the case presented herein nutmeg produced a transient toxic effect on the kidney.

SUMMARY

A case of nutmeg poisoning has been presented, with a review of the literature. The toxic factor of nutmeg is known to be myristicin, a constituent of the volatile oil of nutmeg.

Nutmeg in doses of 5 gm. or more produces a marked depressant action on the central nervous system as well as a less prominent stimulating effect. The clinical course may be severe, with coma, shock and acidosis as prominent features.

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Myths About Pregnancy

If you eat ice cream, the baby inside of you will catch cold.

If you want a boy, eat peanuts and alkalies; for a girl, eat sweets and acids.

If you have heartburn, the baby will have lots of hair.

These are just some of the old wives' tales that plague pregnant women. They exist because occasionally coincidence seemingly makes one come true, according to an article in the August Today's Health, published by the American Medical Association.

Mrs. Joan S. Pollack, a University City, Mo., mother, pointed out that the major hazard in passing on such tales is that the pregnant woman seems to be especially imaginative. She is concerned with protecting her child and is only too likely to be scared by the myths.

Among the myths are:

—Broad-hipped women have easier deliveries than those with narrow hips. This belief can't hurt, even though it is the internal, not external, measurements that determine ease of delivery.

—If you eat lobster, you will mark the baby. To which, Mrs. Pollack replied, "If I drink milk, will my baby look like a cow?"

—The majority of markings are supposedly due

to happenings late in pregnancy, yet the fetus is formed early in pregnancy.

Not only can a mother never mark her baby in a detrimental fashion, but she will only bore herself if she listens to piano recitals 10 hours a day in hopes of influencing her child to be a brilliant pianist.

—It is safer to be born in the seventh month than the eighth month of pregnancy. This stems from an ancient Greek belief that a baby tried to get out during the seventh month and if it was strong it succeeded. If it failed and tried again the next month, it would be so tired it would die of exhaustion.

The truth is that every day a baby remains inside the mother—up to the normal term—it gets stronger and healthier and more likely to survive.

—It is lucky for a baby to be born with a caul. The Roman midwives sold cauls for good luck to sailors and travelers. The caul is caused when the membranes surrounding the baby are abnormally tough and instead of rupturing, remain intact and are pulled down with the advancing head.

Several other myths about the labor are: the baby's head sinks to the pelvis at the dark of the moon; change of moon starts labor; girls make harder labor than boys; each person the mother talks to after labor starts prolongs the pains; if a woman has a large mouth, labor will be easy; mothers must not breathe deeply during labor since it holds the baby back.

Surgery in the Aged

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THE PROBLEMS which develop with advanced age have always been with man. However, it has just been in recent times that the great number of aged people have formed an important segment of our society. It has been estimated that 10 million people will be 70 years or older in our county by 1960.¹ We have now entered a new era of surgery where a great percentage of these people can be operated on safely. Major advances that have made this new era a possibility have been controlled anesthesia, fluid and electrolyte concepts, blood, technical surgical advances, and pre and post operative care.² The philosophy expressed in the phrase "why not let the old man die" can no longer be accepted.

The average length of life in this country is about 70 years.³ This was the criteria used to decide on the minimum age to be included in the present study.

PRESENTATION OF DATA

Seven hundred and six major operations were performed on 641 patients 70 years or older from 1949 to the present time. All the operations were done at the C & O Hospital in Clifton Forge. See Table 1 for a breakdown of these operations.

(A) Laparotomies

The 47 cases in this series refer only to those cases in which the abdomen was opened as a diagnostic procedure. Frequently, a definitive procedure was carried out although in many cases only an exploration or perhaps a biopsy could be done. The most frequent indication for laparotomy was the presence of intestinal obstruction. An abdominal mass and the so-called acute abdomen were also major indications for laparotomy. The most frequent finding at laparotomy was tumor; this occurred 21 times. In eight cases the findings were completely negative. Table 2 further summarizes the laparotomies.

Table 2

LAPAROTOMIES—47

32: Elective	—	Survived	26
		Died	6
15: Emergency	—	Survived	12
		Died	3

(B) Cholecystectomies

There were 91 cholecystectomies with four deaths. Seventeen of these cases were considered emergencies and two of the deaths were among this group. Forty-

Table 1

ANALYSIS OF 706 MAJOR OPERATIONS

Procedure	No.	Average Age	Complication	Other Diseases	Deaths	% Deaths
Laparotomy	47	75	11	14	9	19.0
Cholecystectomy	91	74	7	30	4	4.4
Hip Pinning	68	77	6	43	6	9.0
Gastrectomy	40	74	6	10	3	7.5
Colon Operation	28	74	9	7	3	10.5
Amputation	41	77	14	24	12	29.0
Appendectomy	12	76	1	2	0	0
Hysterectomy	18	74	0	2	0	0
Mastectomy	28	75	7	7	0	0
Thyroids	15	73	4	12	0	0
Hernia Operation	128	75	28	62	1	0.4
Prostatectomy	159	76	32	94	2	1.3
Cystotomy	30	79	7	15	6	20.0
Small Bowel Resection	1	73	0	1	0	0
	706	75	132	323	46	6.5

five cholangiograms were done at operation. This represents 50% of the cases. This procedure is done routinely at the C & O Hospital in all gallbladder

From the Chesapeake and Ohio Hospital.
Presented at the meeting of the Virginia Surgical Society, Williamsburg, May 2, 1959.

cases when feasible. It is used as a supplement for decision concerning choledochotomy. The common duct was opened and explored in 25 of the 91 cases with positive findings in 17. It may be mentioned that in two instances the common duct was opened on the basis of the cholangiogram findings alone.

(C) Hip-Pinning

Sixty-eight cases were studied. No hip-pinning was ever done as an emergency procedure; time was always taken to prepare the patient adequately. There were six deaths and three of these were in patients who had suffered pathologic fractures.

(D) Gastrectomy

Forty gastrectomies were done. The most common indication was ulcer in 28 and CA stomach in nine. Five of the 40 cases were emergency situations; one was for bleeding and four for perforation. There were three deaths. One was the patient operated on as an emergency for bleeding. The other two deaths followed elective gastrectomy for carcinoma.

(E) Colon Resection

There were 28 colon resections done, 10 of which were abdominal-perineal resections. Twenty-four of the cases were done for cancer. Table 3 lists the

Table 3

INDICATIONS FOR COLON RESECTIONS	
Cancer	24
Ulcerative Colitis	1
Gangrene Cecum (in femoral hernia)	1
Diverticulitis	1
Polyp	1
	<hr/>
	28

reasons for doing the remaining 4 cases. Thrombophlebitis was a common complication and occurred five times. Three of the 28 patients died.

(F) Amputation

Forty-one amputations were done on 36 patients, five being amputated twice. Gangrene due to peripheral vascular disease was the indication in all but one case. Eleven of the 36 patients had diabetes. All were above-knee amputations. As would be expected generalized vascular disease was very common in this group and was probably largely responsible for the high mortality of 12 in 41.

(G) Appendectomy

Twelve appendectomies were done with no deaths; however, 10 of the 12 cases had gangrenous appen-

dices and six of these had ruptured. Eight cases in all required drainage. This demonstrates very well the treacherous nature of appendicitis in the aged.

(H) Hysterectomy

Eighteen hysterectomies were done in people 70 years or older. Eight of these were done from the vaginal approach. Table 4 lists the indications. There were no deaths.

Table 4

INDICATIONS FOR HYSTERECTOMY

Prolapse (Vaginal)	6
Fibroid	3
Cancer Cervix	3
Local Extension Cancer Sigmoid	2
Local Extension Cancer Ovary	2
Perforation Uterus at D&C	1
Acanthoma Endometrium	1
	<hr/>
	18

(I) Thyroidectomy

This was done on 15 patients. Twelve had some type of goiter, two had solitary adenoma and one carcinoma. The patient with cancer had a radical neck dissection in addition to a total thyroidectomy. There were no deaths, but there were four complications, including post-operative hemorrhage in one case requiring return to the operating room for control. Another patient suffered a unilateral vocal cord paralysis.

(J) Mastectomies

Twenty-eight mastectomies were done in 25 patients. Nineteen of these were radicals done for cancer and nine were simples, six of which were done for cancer and three for benign disease. In six instances a simple mastectomy was done for cancer of breast. This is done when the patient has other serious disease present or when the lesion has advanced beyond the regional nodes. Ten of the 25 cases of cancer had positive axillary nodes and seven of these received post-operative x-ray therapy. There were no deaths in this series.

(K) Hernia

There were 128 hernia repairs done on 107 patients. The great majority of the hernias were the inguinal type and all but nine of the patients were males. Six of the nine females in the series had incisional hernias, two had inguinal, and one had a bilateral femoral hernia. The duration of time these hernias had been present was interesting and ranged from four days to 40 years with an average

of five years. The patient who died had had his hernia for 20 years and only decided to have it repaired after it had incarcerated. He died suddenly the day following surgery, presumably of a coronary. A complication that occurred eight times was urinary obstruction due to a large prostate. In seven cases prostatectomy had to be done. Another common complication was hematoma formation; this developed eight times.

(L) Prostatectomy

One hundred and fifty-nine prostatectomies were done. Each of these cases had a preliminary cystotomy done several days prior to the prostatectomy and a bilateral vas ligation was carried out at that time also. A transvesical suprapubic type prostatectomy was done in all cases. A BUN and IVP were done routinely on these patients prior to surgery. In 14 of the cases an additional diagnosis of carcinoma of prostate was established and in two cases carcinoma of bladder was found. Some form of antibiotic or gantrisin was given to nearly all the patients as a prophylactic measure. Sixteen received none at all. Hemorrhage was a complication in only seven cases. Four others developed an epididymitis and two an orchitis. There were two deaths. One was a 73-year-old man who developed an ileus and renal shut-down; he died on the 21st post-operative day. The second death occurred in a 77-year-old man quite unexpectedly on the 6th post-operative day. His death was thought to be due to either a coronary or a pulmonary infarction.

(M) Cystotomy

Thirty cystotomies were done on patients over 70 years of age. Table 5 lists the indications. Five of

Table 5

INDICATIONS FOR CYSTOTOMY

Prostatic Obstruction	14
Cancer Bladder	8
Stone Bladder	3
*Stricture Urethra	3
Foreign Body (Catheter)	1
Suspected Tumor Bladder	1
—	—
	30

*Catheter could not be passed.

the six cases who died had ASHD. The eldest patient in this entire study was among the cystotomies. His surgery was done for prostatic obstruction but according to the records never had the prostatectomy; he was 100 years old.

SUMMARY

Data has been presented on 706 major operations done on 641 patients 70 years or older. Three hundred and twenty-three of the patients had other diseases present in addition to the condition for which surgery was done. This represents nearly 50% of the group. Cardiovascular disease was the most common concomitant disease present. One hundred and thirty-two of the patients developed some type of complication following surgery. This represents 22% of the group. The great majority of the complications were of a minor nature and did not threaten the life of the patient. Forty-six of the patients died in the hospital following surgery. This represents a mortality of 6.5%. Table 1 illustrates this.

COMMENTS

(A) Evaluation and Preparation for Surgery

Probably the most important consideration to be made here is the evaluation of the patient as a whole rather than the immediate surgical problem. Medical consultation is of the utmost importance at this time. Dehydration and decreased blood volume are common in the aged. Digitalization should be done with the least sign of impending failure and any respiratory infection should be cleared up whenever possible prior to surgery. Also any mechanical urinary obstruction should be corrected or at least alleviated prior to surgery. Emphasis should be on reversible processes that can be corrected rather than chronic irreversible disease processes.⁴

(B) The Problem of Gallbladder Disease in the Aged

It has been established that elective gallbladder surgery in the aged is nearly as safe as that done in the younger patient; however, mortality rates climb rapidly when the surgery is emergency in nature and mandatory.⁵ This is a strong argument for elective cholecystectomy at an earlier age when complicating disease is not a factor.

(C) Fractured Hip in the Aged

Immediate reduction under anesthesia, with fixation using a Smith-Petersen nail plate combination enables the fractured hip to be repaired in surgery lasting one to two hours and permits limited weight-bearing in a few days. This eliminates the dangerous prolonged bed rest necessary in treatment without operation. Usually the surgery can be carried out in a day or two.⁶

(D) Emergency Surgery in the Aged

An emergency is an urgent occasion for action and

this is especially true with elderly patients. Conditions likely to develop in older patients that require immediate attention are complications of diverticulitis, large bowel obstruction from tumor, mesenteric thrombosis, and incarcerated hernia.⁷ Intestinal obstruction is especially poorly tolerated in the aged and requires immediate definitive treatment.⁸ It must

Table 6
MORTALITY

	<i>Emergency</i>	<i>1's</i>	<i>Elective</i>
Laparotomy	3 in 15		6 in 32
Cholecystectomy	2 in 17		2 in 74
Hip Pinning	0 in 0		6 in 68
Gastrectomy	1 in 5		2 in 35
Colon Resection	0 in 1		3 in 27
Amputation	0 in 0		12 in 41
Appendectomy	0 in 12		0 in 0
Hysterectomy, Mastectomy, Thyroids	0 in 0		0 in 61
Hernia Operation	1 in 8		0 in 120
Prostatectomy	0 in 0		2 in 159
Cystotomy	0 in 0		6 in 30
Small Bowel Resection	0 in 1		0 in 0
	7 in 59		39 in 647
	(12%)		(6%)

be remembered that old people complain less than younger people and may not seem as acutely ill as eventual diagnosis testifies.⁷ Perhaps the best example of this is acute appendicitis. The increased hazards of emergency surgery is clearly demonstrated in Table 6. Notice that the mortality rate for the emergency surgery was twice as high as that for elective surgery.

CONCLUSIONS

The defeatist attitude toward geriatric surgery common among physicians and the general public is unjustified and should be dispelled. The results

of surgery in old age can be gratifying and necessary surgery should not be withheld on the score of age alone. The health and welfare of our old people must be guarded. Conditions which can be treated by surgery should be done so at an early date to avoid the dangers of complications. This type of philosophy would tend to enable society at large to continue to benefit from the vast knowledge and extensive experience gained by those people who have lived 70 years or more and who are still active physically and alert mentally.

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Don't Make a Date with the Sandman While Driving

The sleepy driver causes many accidents. In fact, a sleepy driver is as much of a hazard as a drinking one. Dozing at the wheel is not restricted to nighttime driving. Many "fatigue" accidents occur in broad daylight.

When making long trips, rest every two hours

and drink coffee or cola to stay alert. The night before you drive don't take a sleeping pill—or any medicine that may make you drowsy.

Next time you feel the least bit sleepy while driving, pull up and rest up. A nap will help you stay alive!

Progress in Sub-Normal Vision Aids

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WE HAVE BEEN OPERATING a clinic for persons with sub-normal vision for the past 18 months at the Virginia Commission for the Visually Handicapped. For many years the ophthalmologist has recognized the need of these people but has been limited in his ability to help due to the lack of lenses of sufficient magnification and clarity to be of use to the patient. We are now on a threshold from which we hope to progress. The development of new lenses, the increased interest of physicians, and the increased demand of the public will, I hope, tend to spur us forward.

In the operation of our sub-normal vision aid clinic we like to get our patients by referral from ophthalmologists and eye clinics throughout the State. In this manner we are assured that the patient has had an adequate refraction for distance vision and a diagnosis, if this is possible. This is ideal but not always possible; therefore, we always check for distance correction and improvement in refraction. The types of correction for distance are:

1. Regular Corrections
2. Non Optical Method
3. Telescopic Spectacles
4. Contact Lenses
5. Pinhole Spectacles

The number of patients seen who can be improved with a good refraction is amazing. Some have not had a refraction for many years and others have never had an adequate refraction.

By a non-optical method, we mean a patient may simply move closer to the object he wishes to observe, e.g., a person with 3/200 vision moves to within two feet of the television screen. He appreciates a magnification of 10 X by moving from 20 feet distance to two feet.

Contact Lenses are of great value in the treatment of high myopia, keratoconus, unilateral aphakia, corneal grafts, and many others.

Pinhole spectacles help in cases of scarring of the cornea, vitreous opacities, and lens opacities.

We do not use telescopic spectacles very often be-

cause of the narrow field of vision. You may improve a patient's vision considerably at 20 feet, only to have him fall over a large object or a curbstone right at his feet. There are special cases where they are of value, e.g., reading gauges which are elevated. Telescopic spectacles are pawns in the hands of unscrupulous ancillary groups or individuals to extract money from the poor unfortunate who are grasping at straws in order to see.

Our primary mission in the sub-normal vision aid clinic is to attempt to improve the near or reading visions of the patient. The methods used to accomplish this may be classified as follows:

1. Regular corrections
2. Strong plus reading adds for binocular use
3. Strong plus reading adds for monocular use
4. Microscopic lenses
5. Strong plus aspheric lenses
6. Telescopic lenses with reading caps
7. Contact lenses with reading additions

Regular corrections are self-explanatory.

Strong plus reading adds for binocular use have, of course, been used for many years. It is of interest to note how many refractionists will stop at a plus 3.00 add. A patient with a low visual acuity will tolerate as much as a plus 8.00 add binocularly as long as the add is decentered nasally. We have found that a decentering of approximately 1 m.m. for each diopter of add is a good rule of thumb. This was not original with us but has been adequately demonstrated by Dr. Gerald Fonda in his work with the low vision cases.

Once we get above plus 8.00 diopters we must limit ourselves to a monocular reading addition. For this, of course, we utilize the better of the two eyes and can go as high as practical on our reading addition. The patient with binocular vision has difficulty at first in suppressing the eye which is not being utilized and sometimes an opaque occluder is necessary. The big disadvantages to the high plus lenses that have been utilized in the past have been the aberration and distortion encountered. This has been lessened to some extent by the newer lenses available.

The microscopic lenses are very useful, especially in the 2 and 4X lenses. The 2X may be worn binocu-

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larly if decentered properly. The 4X must be worn monocularly.

The best lenses which we have available today are the aspheric lenses. Of these, I have used the Volk Conoid lenses more extensively than any of the others. We are able to go much higher on our plus correction and retain a clearer image from margin to margin than with any other type of lenses. We have only recently added to our stock lenses made with aspheric curves that are molded from plastic. This would be a great advantage over the crown glass from the standpoint of weight and price. It remains to be seen whether the disadvantages of scratching and induced astigmatism outweigh the advantages. The Volk Conoid set ranges from a plus 15 diopters to 100 diopters. The most useful lenses that I have found in the set are the 15, 20, 25, and 30 diopters. When you get above 30 diopters the focal length of the lens is so short that the patient is unable to get light between the lens and the reading material. The focal depth is so shallow that unless the patient has a very steady hand he has difficulty in keeping the reading material in focus. There are people with a great deal of motivation for reading and I think the ophthalmologist should individualize the problem and consider going to much higher magnification.

Telescopic spectacles with reading caps and contact lenses with reading additions can be used in special cases for improving near vision.

The patients seen in our sub-normal vision aid clinic were from all income groups and were both private and clinic patients. Their ages ranged as displayed by the following chart:

AGES	NUMBER OF PATIENTS SEEN
0-10 -----	5
11-25 -----	69
26-40 -----	47
41-60 -----	44
60- -----	41
Not given -----	17
<hr/>	
Total number seen----	223

The most unusual item noted in this series is the large number of patients in the 11-25 age group but I think this can be explained on the basis of the referral from the regular refraction clinic operated by the Commission for the Visually Handicapped for welfare patients and school children, and also referrals from the Hampton and the Staunton schools for the blind. I might add also that the number of 17 patients who would not give their ages should be

included with those above 60 years. I believe that an ophthalmologist in private practice would have the majority of his patients in the 60 plus age group.

The most frequent diagnoses encountered are listed as follows:

DIAGNOSES	NUMBER OF PATIENTS	NUMBER OF PATIENTS FITTED
Optic Atrophy -----	39	24
Choroiditis		
Central -----	27	17
Disseminated -----	3	2
Macular Degeneration --	24	15
Congenital Cataracts,		
post operative -----	20	12
Aphakia -----	12	6
Albinism -----	10	6
Diabetic Retinopathy --	9	3
Myopic Degeneration --	9	0
Retinal Detachment ----	9	5
Retinitis Pigmentosa ---	9	4
Glaucoma -----	6	1
Cataracts -----	6	2
Keratoconus -----	2	1
Various other diagnoses--	17	8
Undiagnosed -----	5	2

The diagnoses are listed in the order of the number which were seen and also the number which were fitted with some optical aid. This latter figure includes only those which were improved sufficiently to assure a moderate success. As a general rule, those which had a considerable reduction in their peripheral fields did not do well with low vision aids. Retinitis pigmentosa seems to have been an exception in this series.

The types and number of lenses prescribed are listed as follows:

CONOID LENSES	
15 Diopter -----	14
20 " -----	15
25 " -----	21
30 " -----	5
35 " -----	1
40 " -----	1

AO MICROSCOPIC LENSES	
2 X -----	14
4 X -----	1
6 X -----	1
8 X -----	1

FEINBLOOM MICROSCOPIC LENSES	
6 X -----	1
10 X -----	1

HAND MAGNIFIERS, Multiple types-----	24
(illuminated and non illuminated)	

DOUBLE LENS MAGNIFIERS -----	5
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TELESCOPIC LENSES (both powers fitted with 6 X reading caps)	
1.7 X -----	1
2.2 X -----	2
REGULAR SPECTACLE LENSES -----	35
CONTACT LENSES -----	9

As evidenced above the Conoid or aspheric plus lenses were our biggest help in this series. It may be that we were extravagant in our use of these. Dr. Gerald Fonda tends to use many more microscopic lenses than evidenced in our series and he has had much more experience. However, in each case where a Conoid was prescribed, the patient tried a microscopic lens and was allowed the choice according to the vision obtained. The results reflect their answers. The amazing thing shown here is again the importance of doing a good refraction and using high plus adds. The number of 35 regular spectacle lenses prescribed is quite high in relation to the number of patients seen.

SUMMARY

I am sure that I don't need to impress upon you the gratification derived from working with people with very poor vision. Most of you have experienced this many more times than I.

From my experience during the past 18 months I have learned a number of things. Briefly they are as follows:

1. If you are asked if you can help a patient with a certain diagnosis it is impossible to answer. This work is a combination of trial and error, patience, and perseverance. From our statistics we are able to predict that those with optic atrophy, macular degeneration, and choroiditis are going to get the best results and those with glaucoma, retinitis pigmentosa, etc. are going to give the poorest results but until you try that particular patient you don't know what kind of results you will get.

2. From going over all of my records for the past year and a half, I am struck by the fact that those who obtained the best results were those with a vision of 20/200 or better for distance.

This record that I have presented to you is incomplete. We do not have an adequate follow-up as yet on these patients, sufficient to give you the degree of success of the program. How many of the patients fitted are utilizing the lenses prescribed? That should be our measure of success. We are attempting to carry out this portion at present. We believe that of the number of patients seen, approximately fifty percent are being fitted with a suitable correction; but the degree of success of this fifty per cent is, at the present, in doubt. Fonda is obtaining seventy percent at this time. We hope our results will be comparable.

*Medical Arts Building
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When Is "Too Old to Drive"?

Doctors agree that periodic check-ups are highly desirable for older people. Past 65, reflexes and coordination tend to be a little slower—people tire more easily—resistance to glare is lessened—the ability to see at night is on the decline. If you're

past the 65 mark, plan your travels to avoid rush hours; veto extended periods at the wheel. At least once a year, check your vision and capacity to drive. After 65 make sure your general health is up to par before driving.

Philosophy of Treatment at the Memorial Foundation

A Residential Treatment Unit for Emotionally Disturbed Children

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THE MEMORIAL FOUNDATION today is the end product of some 154 years development. It had its early beginnings in philanthropic work which, out of compassion and interest in children in the community, gave rise to a movement that over its long history has provided services for many wayward, unhappy, homeless girls, and finally in the past fourteen years has specialized in the treatment of the emotionally disturbed child and his family.

The treatment program at the Memorial Foundation is based on several simple, philosophical, and psychological tenets. The first of these is that each child is entitled to be unhappy, emotionally disturbed, ill, and to think and feel as he must in view of the life he has lived to date, his misconceptions of it, and the overwhelming circumstances that bring him to this residential home. He cannot, however, in all of his unhappiness, attempt to infringe upon the other children or the staff. He finds six and one-half acres which have a unique climate, one which says simply "You are unconditionally accepted as you are because we know that in order for you to find the way out of your dilemmas, your unhappiness and emotional upset, the point of departure must be where you happen to be at this moment." Members of the staff recognize that a child will not accept them just on face value, so he must go through a period of time where he will test ad infinitum, though he really does get the message loud and clear that he really is unconditionally accepted and that he is really free to be who he must be for the moment, with the simple proviso that he not infringe on the other children, the staff, or the property in so doing. The second premise is that each child has certain rights and privileges that are his as a human being, and that the adults he will come in contact with can uniquely respect his individuality and his being a thing apart, a separate and distinct human being in his own right. Because of all the complexities

that go into making each one of the children's personality the unique thing it is, it is fundamental to our treatment program to accept the child's own timing, his own pace, his own way of doing things, and even to some extent his own distortions when they do not infringe on others.

The population of the Foundation is twelve during the school year and fourteen during the summer program. Children are selected for admission who have a native endowment potentially average or better, between the ages of 6 and 11½ on admission. Due to the fact that we do not have an infirmary service, we do not accept children with major orthopedic or severe neurological problems. Children are further selected in terms of the fact that we believe that within a year or two they can be returned to their family, to their home environment where they may operate successfully even though it may be necessary to carry them on an outpatient basis in the Memorial Guidance Clinic. We further require that during the time the child is in residence the parents be involved in group or individual therapy. We do not accept children unless we have a family with whom to work, feeling that a child's problem is an expression of an overall complex family unit's problem and no child can have a problem in a vacuum by himself. This is extremely important in our program because those who eventually will take over and help the child attain his own personal destiny with what talents, what gifts, what ability he has, what adaptive mechanisms he may possess, must ultimately be the people who will rear him.

The residential treatment home is an open institution and, therefore, cannot house children who are so desperately upset that they must have the physical limits of closed and locked units. This, however, precludes very few children because, in the experience of our staff, relatively few children require locked wards in this age group. The locked wards

themselves sometimes provide special problems, bringing out behavior in children that is more consistent with the locked ward kind of behavior although it is certainly recognized that there are times, for short periods, when closed units are the treatment of choice.

One obtains admission to the Memorial Foundation by first applying through the Memorial Guidance Clinic. The child receives an intensive study which includes (1) a battery of psychological tests, which tests intelligence, achievement, social ability, emotional and psychological adjustment to life; (2) a psychiatric evaluation consisting of a mental status and clinical evaluation of the child's capacity to adjust and the nature of his problem; and (3) a carefully taken psychiatric social casework history. This material is collected and presented at a staffing where the entire staff reviews the history, works out the dynamics of the family involved, and then recommends, if indicated, that the child be referred to residence. The residence is meant to be used as a prophylactic step in the feeling that interruption of the usual life pattern at this time is warranted because of the nature of the problem, that separation would be beneficial, and that so far as the time is concerned it should be at this time rather than waiting until a state of affairs develops where nothing short of protracted, indefinite, or permanent separation will be of any benefit. The Foundation, therefore, always maintains a waiting list; the average turnover in any one year is somewhere between twenty and twenty-four children. Anyone in the State of Virginia is eligible to apply. If, following admission, the parents do not find it possible to continue participating, the child would be separated. This, however, is gone into carefully before the child is admitted to the unit.

In addition to the milieu described above, the treatment program consists of attendance in the Richmond Public Schools for those children socially capable and mature enough to do so. A selected teacher in a selected grade is worked out for these children with the Guidance Department of the Richmond Public School system. For those children who are so severely emotionally disturbed or so socially inept that they cannot attend school, the Richmond Public School system, in conjunction with the Memorial Guidance Clinic, provides a remedial teacher who holds daily classes in the Clinic. Those children who do attend public school are carried to and from by the personnel of the Memorial Foundation; those children requiring remedial work in addition to the routine school

work in their selected classes receive it at the Clinic from the remedial teacher. In addition, all children are seen twice a week in group psychotherapy, and once a week, at a minimum, in individual psychotherapy. At the same time, the parents are also seen in individual and group psychotherapy by the professional staff of the Memorial Guidance Clinic. It is the belief of professional workers that the family ties for the children selected for treatment should be kept strong so the child may be able to test his progress and work out his problems with the people with whom he feels he has his problems. For this reason, all children who live within the immediate area go home each week end from Saturday noon until Sunday at 3 p.m. Those who live quite a distance go home every other week end. Also, as part of the evening program on Wednesday nights, the children phone their parents. The overall approach to the problems of the children is a family approach. So, too, is the fee system. There is a single fee for the entire family based on the ability of the family to pay, i.e., based on the income of the wage earner; therefore, a fee may be anywhere from zero to thirty dollars per week. The latter figure represents less than 1/4 of the cost to provide the program by the Memorial Foundation and the Memorial Guidance Clinic.

For those children who have special neurological problems, electroencephalograms are procured during the workup and subsequently with the cooperation of the Department of Neurology of the Medical College of Virginia, or with several of the private practitioners and private neurologists in the area. Children requiring speech training are worked with while in residence at the Speech Center. Those who have special orthoptic problems are referred to a specially trained Doctor of Optometry in the area.

As part of the overall child care and health problems, the Memorial Foundation employs part-time a graduate pediatrician who makes daily rounds and who is on call for emergencies. The pediatrician performs all physical examinations, periodic repeat physicals, laboratory tests, inoculations, and also attends any of the children who are ill. He participates in the pediatric aspects of management of children on whom special drugs are being used. He also helps manage those children who have psychosomatic problems. The child care aspects of the program are the major responsibility of the Director and the residential workers who live with the children around the clock; there are always residential workers on through the night, morning, afternoon

and evening. These people are specially trained in an ongoing in-service training program and understand the meaning of the child's behavior as part of his overall conflicts, his personal individuality, and, with the help of the Director and members of the staff of the Memorial Guidance Clinic, to meet, at a behavioral level, these children's problems. We feel it is of paramount importance that these children receive acceptance, recognition, and direction. No child is capable of setting a pace or understanding, without assistance, the world in which he lives. The child who has been confused, misled, has misinterpreted and misunderstood many of the experiences he has had, is certainly not able to understand the world in which he lives. Psychotherapy, which is a direct approach to the psychological problems that the child has, is in the hands of the professional workers of the Memorial Guidance Clinic under the direction of the Director. Here, the effort is to uncover, to externalize, to help a child appreciate his role, to become more aware of his misinterpretations and misunderstandings, and, at the same time, to work out more adequate techniques in living, while the parents, on their parts, go through essentially the same thing in their psychotherapy.

During the school year there is an evening program which consists of showing movies some nights, taking a trip shopping each week on allowance night, telephoning home, arts and crafts, free play, putting on plays, and, weather permitting, cookouts; also various trips into the community to different community attractions such as circuses when they are in town, trips to parks, museums, and other places of interest and amusement.

An example of the philosophy or point of view of therapy at work might best be exemplified by the attitudes of the staff concerning eating. Many of the children come to us with many severe problems, in part, brought about by the fact that the table was very often used as a battlefield. While the children do not have an opportunity to avoid coming to the table, they are not required to eat, and if their behavior infringes on the rights or enjoyment of others eating, they are separated at a separate freedom table. We feel it is necessary to give direction and hold up an expectation that is reasonable, but the child must also have an opportunity to jump the barriers if, in his emotional upset, this is needed. It further, however, is the responsibility of the staff to set limits when in exercising his right to jump the barriers, he infringes on the rights of others. Sometimes diverting a child is needed; sometimes

holding a child and soothing him; sometimes physically holding a child to restrain the child from acting out. It is never the intent, nor is it countenanced, to retaliate toward a child when, in his upset or disorganization, he strikes back at the people responsible for his care. For this purpose, when a child is so upset that no verbal injunction and no simple holding of the child on one's lap or holding him physically for a moment will work, we have provided what is known as a "freedom" room. This is a simple room without any furniture where the child can either go by himself or will be brought by a residential worker. He will stay in this room until he has settled down. While in there he may curse, he may spit; if he has a need to, he may kick the walls and express himself in any way he will. When he has settled down he can come out. Only in rare instances is it ever necessary to lock the door. Most of the children find, after a few experiences, that it is to their benefit to withdraw to the freedom room if they are going to go for bust. This has been accepted by the staff and by the children and though it represents a not unique device, it seems to be very successful in saving the child undue embarrassment and overwhelming guilt when adequate direction and limits have not been set or would not otherwise have been set.

At the present time there is an ongoing followup study for five years to evaluate the effectiveness of residential treatment, its program for the children and for the parents, its liabilities, its strengths, the role in which it participates at this time in the life of the child. The program of followup includes psychological testing, validating information from the child's teacher or teachers before and after residential treatment with the parents and with the child. The results are to be published, hopefully, in 1963, although there may be preliminary papers before that time.

The residential treatment home furnishes an excellent center for the training of residential workers, psychiatric nurses, residents in psychiatry, and in child psychiatry, pediatric residents, psychiatric social workers, psychologists, teachers, and people in other allied fields. An active program in all of these fields is currently going on in conjunction with the Memorial Guidance Clinic and participating universities and training schools.

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Stein-Levanthal Syndrome

A Case Report

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STEIN-LEVANTHAL SYNDROME is not a common cause of sterility. The recognition of it, is important as it is amenable to surgical correction.¹

In 1935 Stein and Levanthal described a syndrome characterized primarily by amenorrhea and sterility, which was associated with definite ovarian pathological changes.² They found that wedge resection of a thickened capsule gave excellent results. One group's cases were 89% satisfactory.³

CASE REPORT

A twenty-five year old white married female was seen because of inability to become pregnant after six years of marriage and very irregular menstruation. During the twelve months prior to her first visit there had been one period. She was short and obese with moderate hirsutism.

Pelvic examination was essentially negative. The urine and hemogram were not remarkable. A 24-hour urine specimen with 17 keto-steroids was within the limits of normal. D & C was done and the pathological report was "hyperplastic endometrium".

She was then placed on cyclic estrogen therapy and

had one period the following month when the estrogen was omitted.

A diagnosis of Stein-Levanthal syndrome was made and exploratory laparotomy carried out. Both ovaries had a thickened capsule and a wedge resection of each ovary was done bilaterally. Her post-operative course was uneventful.

The pathological report was "Biopsy of ovary showing some lipoid containing cells, consistent with Stein-Levanthal syndrome".

Some months later she was delivered of a full term female infant by cesarean section.

SUMMARY

Stein-Levanthal syndrome is briefly discussed and a typical case reported.

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Emotional Upsets May Cause Accidents!

Doctors agree that the emotional stability of the driver is as important as any single factor in maintaining traffic safety. The stakes in human life and suffering are great. The damage done by the troubled driver can be devastating. That's why you owe it to others—and to yourself—not to drive when you have serious problems on your mind. For instance:

IF—you're still thinking about that argument you

had before you left your home or office . . .

IF—you're in a depressed or angry "I-don't-care-what-happens-now" mood . . .

IF—you're very worried about a personal problem . . .

THEN—think twice before you take the wheel! You're better off *not* driving . . . unless you can keep your mind on the wheel!

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The Mitigation of Psychiatric and Electro-Encephalographic Evidence of Hyperinsulinism by Partial Pancreatomy

Much experimental investigation of the physiological and psychological effects of hypoglycemia has been conducted since Sankel discovered the therapeutic effects of insulin coma on mental disease in 1928.¹ Nevertheless, a review of the literature revealed only one article (dealing with 11 cases) of Electro-Encephalographic changes in cases of islet cell adenoma. Hoefler et al.² reported that marked improvement occurred in the EEG pattern after treatment with glucose.

The case here reported gives an opportunity to confirm their findings, review the signs of hypoglycemia, and point up the desirability of more adequate training of police in the differential diagnosis of drunkenness.

Within one week a middle-aged, white, man had been jailed for intoxication and released three times despite his vehement declaration "I ain't had a drink in five years." He had episodes of unusual behavior during the afternoons of those days he spent in jail. This history was not revealed by the police who brought him, disoriented and confused, to the M. C. V. emergency room. He had been found wandering in the streets and, except for his socks, unclad from the waist down.

After preliminary examination, he was admitted to the N.P. Service, where he was described as a dirty, but well nourished, disoriented, white male, who did not speak spontaneously, and showed an expressive aphasia in all spheres. Physical examination showed a normal TPR and blood pressure of 180/100. A maculo-papular rash was noted on buttocks and flexor surface of his arms. There was a convergent strabismus. The optic discs were poorly defined. A large perforation of the right tympanic membrane was noted. Coarse ronchi were heard throughout both lungs. Heart, abdomen, extremities, rectal examination, and palpation of lymph nodes were reported as within normal limits. Neurological

examination revealed no evidence of paralysis, and the patient responded to pain. Right-sided, deep tendon reflexes were markedly hyperactive. There was bilateral ankle clonus and Babinski sign. Cremasteric reflexes were retained, but an abdominal reflex was not elicited.

Patient was seen by medical and neurosurgical consultants, and they sustained the initial impression of "cerebral thrombosis".

Former hospital and clinic charts revealed that he was 52 years old, born in England, and had been in the United States for 48 years. He had worn glasses since the age of five. At 11 years, an electric current fused the lateral three toes of both feet. At 41 years he had been injured by a truck and sustained fractures of several ribs and the lower three thoracic vertebrae. At 42 years he had normal blood pressure, normal cardiac and aortic configuration on x-ray. A convergent strabismus and perforations of both tympanic membranes had been noted. His neurological examination had shown an increased right patellar reflex and anesthesia in the left lower quadrant, left thigh and hip.

In his late forties he was hospitalized once for right pyelonephritis, had an old urethral stricture dilated and he was hospitalized again later for left epididymitis. History of alcoholism in the past, but none at this age was elicited. X-rays showed "a marked calcification of the aorta".

At 50 years of age the patient had been seen by ambulance doctors on two occasions when he complained of "inability to walk", but their reports indicate they found only "tremulousness". In the two years preceding this admission, the patient had occasionally manifested bizarre behavior when he would seem confused, jump out of bed at night, and complain of weakness and tremulousness. He always had a good appetite and declared that food relieved his symptoms.

The routine admission laboratory work and spinal fluid examination on this admission were delayed by the summer routine. Meanwhile, EKG revealed a sinus arrhythmia, and routine skull films were reported to be normal. An EEG showed a very abnormal electro-encephalographic picture with an extremely slow record, "strongly suggesting severe

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generalized brain disease". No reliable focus of abnormality was seen. Later a report of a fasting blood sugar of 31 mgm.% was received. This examination was reported to show 25 mgm.%. The patient was given intravenous glucose and transferred to the medical service.

On his third hospital day, his mental confusion cleared and his aphasia almost disappeared, but about two hours after receiving intravenous glucose, he began to breathe heavily and perspire profusely. Lung x-rays showed an "atypical pneumonia of the right base".

On the 5th hospital day, an EEG showed only "mildly abnormal EEG consistent with a diagnosis of epilepsy or allied disorder". This record was reported to show "remarkable improvement over the previous tracings". Subsequently two glucose tolerance tests showed the peak of blood sugar levels at 103 mgm.% with fall to levels of 30-50 mgm.%. Even with high carbohydrate tube feedings and intravenous glucose, blood sugar levels were low, varying from 30-90 mgm.%. The patient had one further episode of agitation and wandered about the ward, upset, and refusing to eat.

An exploratory laparotomy on the 16th hospital day did not reveal a definite tumor, but a partial pancreatectomy was performed. On section, a small islet cell adenoma was found in the tail of the pancreas. Post-operatively the patient suffered atelectasis, which was cleared by bronchoscopy and aspiration of mucoid material. During the remainder of his hospital course, hyperglycemia of 150-250 mgm.% was noted, which gradually returned to normal levels with the use of insulin injections. He was followed in the surgical out-patient department for several months and reported to be doing well, with no adverse sequelae to his pancreatectomy.

COMMENT

"Insulin hypoglycemia deprives the brain of glucose which is needed for energy and for the rebuilding of other substances destroyed by metabolism thus enforcing a restriction in the exogenous energy supply. In an attempt to maintain itself the brain uses its stored energy—glycogen. This substance is withdrawn first from those parts of the brain which have the greatest activity. In the absence of glucose other substances such as amino acids and lipoids which are being constantly metabolized cannot be kept at normal levels. If the hypoglycemia continues, the brain then breaks down part of its cell structure. These changes are reflected in a loss of

amino acids and a shift in salts, sodium, and potassium with the amount of sodium being increased and the level of potassium falling. With the lack of glucose the over-all metabolism of the brain decreases. The reduction of energy also upsets the balance between the various enzyme systems which depend upon the energy obtained from metabolism. This change undoubtedly has far-reaching consequences. One result so far is a change in acetylcholine and serotonin both of which play important roles in the normal function of the brain. In hypoglycemia the former decreases due to lack of energy required to build it in the brain, the latter increases because the enzyme which destroys it also needs energy."³

This dysfunction exhibits itself by muscular weakness, perspiration, tachycardia, flushing, spasticity with hyperreflexia, ocular palsies, clonus, and Babinski's sign. Petit Mal, generalized or focal convulsions, may occur. Psychomotor symptoms or confusional states, delusions, irritability, rages and automatic activities are seen.

The most consistent sign of cortical dysfunction is clouding of consciousness, and is essentially the same primary type in hypoglycemia, anoxia, and anoxemia.⁴ Non-specific EEG changes occur with low levels of blood sugar. They cannot be distinguished from severe generalized trauma, infection, increased intracranial pressure or drug intoxication. Deep sleep shows almost the same EEG pattern as does hypoglycemia. The brain waves are a very reliable indicator of the hypoglycemic or anoxic state of the patient. This phenomenon is occasionally of use to the psychiatrist giving insulin coma treatments when it is important to know whether or not the patient is actually comatose from a complication of the insulin treatment (protracted coma) or is functionally "unconscious" as a symptom of his mental disease.

The history of this patient indicates that he was able to recover spontaneously from moderately severe episodes with a residual tremulousness and hunger. It is assumed that the utilization of an increase in adrenaline, and the mobilization of glycogen stores as postulated by Cannon⁵ served as a mechanism for automatic recovery.

SUMMARY

A case of pancreatic adenoma, in which psychiatric and electro-encephalographic changes were noted, is reported. This is the second time EEG changes due to pancreatic adenoma have been re-

ported in the English literature. Previous findings are affirmed.

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Lightning Protection

Many lightning victims die needlessly because others hesitate to touch them, fearing their bodies are electrically charged. Actually, lightning current passes out of the body immediately and enters the ground. Prompt artificial respiration may save a victim whose breathing mechanism is paralyzed by the high-voltage current.

Other first aid tips for lightning victims, as well as rules for avoiding being struck by lightning, are listed in the August *Today's Health*, published by the American Medical Association.

Lightning strikes the earth an average of more than eight million times a day during the course of 44,000 electrical storms. It kills about 500 Americans each year, and injures another 1500. Nine out of 10 victims are hunters, sportsmen, vacationers, or farmers.

When a person is struck, he frequently experiences violently contracted muscles. This can be relieved by rubbing the limbs upward. A victim should not be allowed to become chilled. Burns, which often occur beneath metal objects such as coins carried by the victim, may need medical attention.

Lightning holds little danger if a person takes the following simple precautions:

—If you have any choice, choose a shelter in the following order: a large metal or metal-frame build-

ing; a building which is protected by proper rodding against lightning; a large, unprotected building; a small unprotected building.

—If you are in an isolated spot and have to remain outdoors, try to reach a ravine, ditch, cave, or other depression in the ground; a thick grove of trees; the foot of a cliff, or the inside of an automobile.

—As a last resort, lie flat on the ground.

—Avoid hilltops; isolated trees; riding a bike or a horse; towers, overhead wires, or outdoor clotheslines; wire fences; wide, open spaces such as pastures or golf courses; small, isolated sheds; small boats, water, beaches; tractors or plows; horses or cattle.

—Do not be the highest object in the area, since lightning tends to strike whatever is projecting highest from the ground in the immediate vicinity.

—Indoors, keep away from screen doors, fireplaces, metal objects and pipes projecting through the wall or roof, electric light circuits, open windows, electrical appliances, and objects that are grounded.

Being struck by lightning is like receiving an electric shock. Unless it is a severe shock, it need not be fatal. One Frenchman was struck five times and died in his old age of pneumonia.

Muriel Lederer, Winnetka, Ill., wrote the article.

Pre-Paid Medical Care . . .

Beds and Utilization

In their article "Hospital Costs Relate to Supply of Beds" in the April, 1959, issue of *The Modern Hospital*, Max Shain and Milton Roemer demonstrate that there is a direct correlation between bed supply and bed utilization. The authors conclude that bed supply should be controlled in order to control usage.

It is, of course, quite obvious how bed supply controls usage as an upper limit. The data presented in the article clearly shows that bed supply also exerts control on usage as a lower limit; throughout the country it has proved true that the more beds the greater the usage. Apparently hospital beds are built initially in response to effective demand for hospital service, but this demand unfortunately all too often is related to the per capita income of an area rather than to its illness need. Once built, the beds tend to be used at about the same percentage of occupancy, regardless of whether the supply, when measured in terms of beds per thousand population, is high or low.

Average hospital occupancy is, of course, considerably under 100 per cent—a fact due to many inherent problems in the logistics of hospital size, departmentalization of facilities by sex and diagnosis, the ups and downs of illness and births, patterns of American life (the "weekend problem"), and so on. The striking fact, however, is that the percentage of hospital occupancy is *not* related to the bed supply. The states with a low supply of beds do *not*, on the whole, keep those beds more crowded with patients than the well supplied states. Yet, there is no evidence of lesser illness needs in the states with a smaller supply of beds; in fact, the opposite is more often the case.

One can only conclude—as have observers in Europe, Canada, and elsewhere—that the supply of beds sets *both an upper and a lower limit* on utilization rates, especially under conditions of extensive prepayment. The diagnosis and treatment of illness—organic or functional, minor as well as serious—in a hospital, rather than in the patient's home, has so many advantages and conveniences for the busy, modern physician and his patient that the tendency

Edited by

RICHARD J. ACKART, M.D.

to use the hospital will be directly determined by whether or not a bed is available. Thus, the supply of beds sets a lower limit on utilization.

For example, during the past decade hospital beds in Virginia have become increasingly available; the rate of bed-increase in Virginia has been relatively greater than in the majority of other states. And concomitantly, during this period, the bed-utilization rate in Virginia has increased more than in the majority of other states. The increase in hospital bed-days paid for by the Blue Cross Plans in Virginia, 1958 over 1957, was exceeded by the experience of the Blue Cross Plan of only one state, New Mexico. Across the country the average increase in the Blue Cross utilization rate during 1958 was 2.06%—in Virginia, 8.63%. The national average increase, in actual number of bed-days per thousand members, was 21 days—in Virginia, 95 days. What do these figures mean to Virginians, *and to the physicians of Virginia?* The difference in utilization experience, Virginia vs. the country as a whole, required Virginia Blue Cross members during 1958 to take on an additional health care expenditure of \$1.08 million. The data show, indeed, that where the bed supply is relatively high, the beds are occupied as fully as elsewhere; that with more beds there are higher utilization rates.

Does Virginia have an excessive number of hospital beds? There is far too much clearly unmet need in the field of chronic disease, rehabilitation, and mental disorder to permit such a conclusion. There is evidence, however, that the existing beds are not being properly used, are not doing the most good for those with the greatest need, are not the right type of beds to fill unmet needs.

A consciousness of the relationship between bed supply and utilization rate is important if we are to exercise rational controls over the health care expenditure of Virginians; the ultimate decision we must face is how much we wish to spend on hospital care. The several Canadian provinces have faced that decision. Once we have made it, we can act upon that decision intelligently by some sort of reasonable and conscious control over the total supply—and the types—of hospital beds to be supported by Virginians. And such control, to be effective, must go beyond that fraction of total beds constructed under the Hill-Burton subsidy program.

Editor's Note: This article is adapted from a letter written by Milton I. Roemer, M.D., Director of Research, Sloan Institute of Hospital Administration, Graduate School of Business and Public Administration, Cornell University.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Immunizations

Active immunity is the state of resistance to infection which is brought about by a spontaneous attack of an infectious disease, by the experimental or intentional production of the disease or a modified form of it, or by the injection of a vaccine. Studies in the field of viral infections indicate that this concept of active immunity is applicable to diseases produced by viruses as well as to those induced by bacterial infections. This is the type of immunity we usually consider.

Passive immunity is the state of resistance to infection which is produced in a normal person by the parenteral administration of serum containing circulating antibodies from a person or animal actively immunized against the disease. In the case of viruses it is not known whether the antibodies so introduced into persons protect susceptible cells against the entry of virus, if they act directly on the virus so as to prevent the production of disease, or whether they enhance the destruction of virus by certain phagocytic cells. Once signs and symptoms of a viral disease are evident, the administration of even large quantities of immune sera is not very effective.

In developing immunity for preventing communicable diseases in his patients, the physician is chiefly concerned with the administration of vaccines and toxoids which produce active immunity.

Immunity against viral diseases is a complex subject. Animals may possess humoral antibodies—agglutinins, precipitins and complement-fixing antibodies—against certain viruses and yet may not be resistant to infection. In most cases the presence of neutralizing antibodies indicates resistance of the animal to the active agent. Again, some animals which have recovered from a virus infection are resistant to reinfection without having demonstrable antibodies. Some scientists believe that a cellular or tissue immunity is the important factor rather than the presence of humoral antibodies. Others adhere to the importance of the humoral antibodies and claim that their apparent absence in some cases may be due to inability to demonstrate them.

Immunizing agents are now employed in the pre-

vention of a number of diseases. The first that the individual comes in contact with are the two toxoids to prevent diphtheria and tetanus, and the vaccine against pertussis, which are combined in one vial and given in one injection. At the same time comes vaccination against smallpox and along with all of these starts the immunization against poliomyelitis.

A toxoid is a toxin, the toxicity of which has been destroyed but which is still antigenic and produces active immunity. Both diphtheria and tetanus produce toxins in culture which are rendered non-toxic in several ways.

A vaccine is a preparation or suspension of killed bacteria which, on inoculation into the body, produces active immunity by the formation of antibodies.

Smallpox vaccine, vaccine virus, is the living principle in the matter obtained from the skin eruption of animals having "vaccinia or cowpox." It is ordinarily obtained from calves but may also be obtained from older cattle and from other mammals.

Poliomyelitis vaccine is obtained from cultures of the virus on monkey kidney cells; the virus is then killed and the kidney cells are filtered out. The vaccine as administered contains killed virus of Types I, II, and III.

The schedule for these immunizations, as suggested by the Committee on the Control of Infectious Diseases of the American Academy of Pediatrics, is:

1 to 2 months of age, 0.5 cc of DPT (diphtheria, pertussis, tetanus)

2 to 3 months of age, 0.5 cc of DPT and
1.0 cc of Poliomyelitis Vaccine

3 to 4 months of age, 0.5 cc of DPT and
1.0 cc of Poliomyelitis Vaccine

5 to 6 months of age, Smallpox Vaccination
10 to 12 months of age, 1.0 cc of Poliomyelitis Vaccine

16 to 18 months of age, 0.5 cc of DPT

The level of circulating antibodies in the child's blood stream falls below the protective level at 18 to 24 months of age following the initial series of three DPT injections and it is highly important to give the "booster". Another booster should be given

on entrance to school. After 10 years of age only the DT booster need be given. There is now a DT combination in which the diphtheria toxoid is diluted which may be given to older children and adults without fear of producing a reaction. A booster at 10 years of age, another at 15, and thereafter about every 10 years, seems sufficient to maintain diphtheria immunity. Tetanus toxoid should be repeated on exposure to infection.

In the U. S. Army smallpox vaccination is done at three-year intervals. For those sent on overseas service it is done within one year prior to departure from this country.

Poliomyelitis immunizations may be strengthened by a booster dose given no sooner than one year after the third dose of a series given at properly spaced intervals.

Other diseases for which immunizations may be given are cholera, influenza, Rocky Mountain spotted fever, typhoid fever, typhus fever, and yellow fever.

Cholera vaccine contains the killed vibrios emulsified in sterile salt solution and standardized to contain 8 thousand million vibrios per milliliter. It is given subcutaneously in two doses, the first 0.5 cc, the second 1.0 cc ten days later. The immunity conferred lasts less than a year so a booster dose of 1.0 cc should be given subcutaneously at six months intervals to maintain protection.

Influenza virus vaccine consists of influenza virus, Types A and B, propagated in the extraembryonic fluids of the developing chick embryo, and inactivated by treatment with formalin. It is given in two doses of 1.0 cc each, subcutaneously, the second dose not less than two weeks after the first. To be effective the vaccine must contain the strain of influenza that is prevailing the season it is given. Immunity is short and it should be repeated annually.

Rocky Mountain spotted fever vaccine should be given in the spring before the beginning of the tick season. It is usually given to those whose occupations keep them in the woods and fields through the day. Adult immunization consists of three injections of 1.0 cc each, given seven days apart, repeated the next year in the same manner, and thereafter 1.0 cc given annually as a booster.

Typhoid vaccine is given in three subcutaneous injections of 0.5 cc each at intervals of 7 to 28 days.

It is advisable to revaccinate or inject a stimulating dose every 2 or 3 years. In the U. S. Army the booster dose is required annually, either 0.5 cc subcutaneously or an intracutaneous injection of 0.1 cc of vaccine.

Typhus vaccine—epidemic type—was used by the U. S. Army during World War II. It contains both rickettsial bodies and soluble antigen. Two doses of 1.0 cc each are given a month apart. Protection lasts only six months to a year and booster doses should be given at least annually before entering an area of exposure.

Yellow fever vaccine is issued dry with a vial of sterile saline. Just before use the sterile saline is added to the dry material and 0.5 cc is injected subcutaneously. Only one dose is necessary. Immunity for at least six years is conferred by the 17D vaccine.

Added emphasis is to be placed on the use of DPT, smallpox, and poliomyelitis vaccines and on the necessity for maintaining the immunizations produced by them. Influenza vaccine is important for intramural groups and for the general public in the face of impending epidemics. Rocky Mountain spotted fever vaccine is only for special groups whose work keeps them in the woods and fields. Typhoid vaccine is of value to those exposed to carriers, for persons who drink water or milk from unapproved sources, and for those who travel. Cholera, typhus, and yellow fever vaccines are advised for those who go into countries where these diseases are endemic.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Aug. 1959	Aug. 1958	Jan.- Aug. 1959	Jan.- Aug. 1958
Brucellosis	1	0	17	13
Diphtheria	1	1	7	14
Hepatitis	43	26	293	189
Measles	188	470	14482	21171
Meningococcal Infections	3	14	65	69
Meningitis (Other)	60	38	198	156
Poliomyelitis	112	34	151	61
Rabies (In Animals)	13	12	119	212
Rocky Mountain Spotted Fever	6	7	31	25
Streptococcal Infections	424	443	6716	5123
Tularemia	3	3	14	25
Typhoid	3	11	14	27

The Medical Society of Virginia . . .

1959 Public Relations Institute

This Institute followed the pattern of its predecessors, namely that it again presented an entertaining, informative and very helpful meeting.

The theme of this meeting was built around Railroading and it was very ably carried out. It is impossible adequately to give credit to such a meeting in as small a space as is provided in our publication, which again emphasizes the fact that if you want to learn Public Relations as it is really practiced by the Home Office, you must attend one of these Institutes.

The meeting was perfect in every respect except one, and that was we did not have the pleasure of hearing from our Executive Vice-President, F. J. L. Blasingame, who was unable to attend because of illness in his family.

Mr. Leo E. Brown, Director, Communications Division of the AMA, was most generous in his comments and praise of Miss Carol Towner, who was in complete charge of this Train this year. All I have to say is that she really presented a superb program and whoever has charge next year is going

to have a tough job equalling a program such as she provided.

If any one part of the Program could be considered better than the rest, I suppose honor should go to the "Premier" of the new medical careers film "I Am a Doctor". In addition to witnessing this awe inspiring film, we had the privilege of personally meeting the gentleman who played the leading role. This film is now available to component medical societies and I strongly urge all who can to obtain a showing for this film in the Medical Schools of the State. It is not a film to be shown to the public such as the film "The Medicine Man" and others which have been prepared in the past but is directed entirely to the medical profession. However, I think it would be well to show this to graduating classes in colleges who are preparing students with the idea of entering the career of medicine.

Again, let me urge all of you who can possibly do so to make plans now to attend the 1960 PR Institute.

JOHN WYATT DAVIS, JR., M.D.,
Co-Chairman, Public Relations

Food Allergy May Cause Urinary Symptoms

Food allergy may be the cause of persistent or recurring urinary symptoms when there is little or no disease in the urinary tract, three Chicago area physicians have noted.

Urinary tract allergy has been a recognized condition for nearly 40 years, but it is rarely reported and the diagnosis is often missed, they said in the July 11 Journal of the American Medical Association.

Frequently the condition may be misdiagnosed as cystitis (inflammation of the bladder), misplaced uterus, or pelvic inflammatory disease. Treatment of such conditions often gives partial relief, but the bladder symptoms usually continue.

The doctors believe that the possibility of allergy should be kept in mind in all obscure cases of cystitis, especially in persons who are otherwise allergic.

They reported one case of a woman who had exhibited urinary tract symptoms for 10 years. She also had a history of allergy. Skin tests indicated that she was sensitive to cabbage, peanuts, soybeans and filberts.

When avoiding these foods, her urinary symptoms disappeared. When she added them to her diet, the symptoms recurred.

The authors are Drs. Donald L. and Leon Unger, Chicago, and Francis Kubik, Michigan City, Ind.

President's Message

BY THE TIME this is read our Annual Convention will be history, my term of office will have expired, and many Society members will be hard at work under a new President. There will be brand new problems as well as perplexing ones from last year, some never to be solved.

We in the medical profession have two kinds of problems—scientific and politico-economic. With the first, we must believe sincerely that our methods and research make American medicine the best in the world. With the second, we must believe in and want our present American kind of medicine to continue.

We cannot sit smug and allow those who do not understand nor those who have some ulterior motive to disrupt our present way of practicing medicine. To protect American medicine you as a physician must first be a citizen and then be a professional man. You must willingly reach out to serve on any advisory council, lay or medical. You must advise statesmen and politicians as to what is best for our country's health. Only in these ways can we obtain relief from many of our current problems.

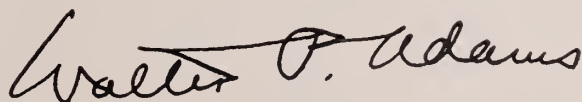
Among the fortunate possessions of The Medical Society of Virginia is its whole Headquarters Staff. Without these constant, efficient, and willing workers our Society could not perform its mission. Our Executive Secretary deserves special mention for his national recognition.

We are also fortunate in having many dedicated physicians in our State interested in both the types of problems referred to above. They enthusiastically look out for Society affairs at their own expense. This involves travel, writing, and organization time and ability.

And we are further favored with the help given the Society by our wives in the Woman's Auxiliary. Their annual projects and accomplishments are of great value and we look forward to their help each year.

It is these three groups I particularly wish to thank for their help during my tenure of office. Without them the Society would not exist. My job was made easier through their help and advice.

The privilege of having served you all as President is a rich honor. I have learned as I have given. My desire is that each member give thought and expression to our many problems, and support our new President and Committee enthusiastically.



President

Observer Error

EACH OF US has had the experience of searching fruitlessly for a given item on a cupboard shelf only to have another person come upon the scene and find it at once. In a similar vein demonstrating the quirks in the psychology of perception, the discrepancies among eye-witness accounts of a given event are legendary. Probably few of us ever wonder how this observer error affects our medical practice. This subject has been aired by Garland and his co-workers in a series of remarkable papers dealing with radiology in particular, and by others (for bibliography, see *Am. J. Roentg. Rad. Ther. & Nuc. Med.* 82:25-38, 1959) with other fields of medical practice. For example, the clinical diagnosis of myocardial infarction was in error in 56% of 214 autopsied patients; the diagnosis of emphysema in 20 patients by eight expert internists resulted in 33-85% disagreement in the evaluation of simple signs; medical histories on 993 miners by four observers disclosed a range of about 100% in the incidence of simple anamnestic data as cough, sputum, dyspnea and pain.

These clinical examples of observer error, affected as they are by semantics and the vagaries of clinical medicine, are probably less surprising than the observer error in a field regarded so concrete as diagnostic radiology. For example, *experienced* radiologists will under-read (miss the lesion) in about 30% of an unselected series of standard-sized chest films, and will over-read (indicate a lesion where there is none) in about 2%. On re-reading the films a few months later, they will have a change of mind in one of each five positive cases (an intra-individual inconsistency of about 20%).

Is there anything in the nature of the missed chest lesions that might account for the under-reading? Small size is not all important since lesions (consolidations and cavities) as large as 4 cm. are missed. Active lesions are missed as often as inactive ones.

Technical inadequacies of the roentgenogram and its facilities for viewing, inexperience, fatigue, and lack of interest on the part of the reader are all self-evident causes of error. There still remains that unexplained observer error which allows the reader to perceive a lesion one time, and not another.

The value of this work is in driving home to the physician the *magnitude* of the observer error in medicine in general and radiology in particular. The realization of the existence of a problem is the first step in coping with it.

As Garland concludes: "Realization of the degree of observer error in different fields should provide a stimulus to greater care in examination, to increased use of consultation, and, above all, to continued attempts at elucidation and correction of the factors involved." For the radiologist in particular, he exhorts dual reading of roentgenograms and periodic conference with colleagues.

CHRISTIAN V. CIMMINO, M.D., F.F.R.

Mary Washington Hospital,
Fredericksburg, Virginia

Current Currents

THE MEDICARE PROGRAM might be in for some changes. Although the Department of Defense has made no official announcement, all indications point to a restoration of many of the benefits eliminated last year for reasons of economy. It is expected that an announcement will soon be made notifying Medicare contractors and dependents that January, 1960, will be the effective date for such restoration.

If reports out of Washington are accurate, elective surgery will go back on the eligible list. Limited period care of acute mental conditions will be permitted and restrictions on out-patient care, with particular reference to treatment of accidental injuries, will be liberalized. It is also reported that certain other changes favorable to dependents are contemplated.

Medicare officials believe that such changes can be effected without disturbing the current fiscal budget. They point out that the additional cost would only be for the half year (January-June).

HATS OFF THIS MONTH to the Newport News Medical Society, which once again was host to a meeting of all members of the House of Delegates of The Medical Society of Virginia from the First District. The meeting, also attended by officers of component societies in the District, was devoted to a review of matters likely to be considered by the House in Roanoke, and Delegates were afforded an excellent opportunity to ask questions and generally acquaint themselves with the issues involved. Other societies might well consider sponsoring such meetings in their areas.

SPECIALTY POPULARITY TRENDS are always of interest to the profession. The latest trends are revealed by interns in their replies to the Department of Defense, which is hoping to defer nearly 900 of them for residency training commencing next July. The replies indicate that the Armed Forces have too many prospective internists—as far as military requirements are concerned. This is also true, to a lesser degree, for obstetricians, ophthalmologists and orthopedic surgeons.

On the other hand, a definite need exists for psychiatrists, general practitioners, pediatricians, otolaryngologists, physiatrists, and specialists in occupational and preventive medicine. It appears now that the Army, Navy and Air Force will make their quotas in anesthesiology, dermatology, neurology, pathology, radiology, surgery and urology. There is some doubt as to whether ten billets provided for medical research can be filled.

DR. CHARLES G. SMITH, Arlington, came up with the cleverest idea of all in opposing the Forand Bill. Dr. Smith sent the following message to members of Congress on his regular prescription blanks:

"If you feel a temptation to vote for the Forand Bill, please call me at once (any hour of the day or night) and I'll be glad to come and sit with you until you feel better."

A number of Congressmen commented on this very effective approach.

THE WELFARE AND RETIREMENT FUND of the United Mine Workers of America has released its annual report and physicians will find it quite interesting. Included among the major expenditures was \$57,783,116 for hospital and medical care benefits. About 7,000 private physicians provided services during the year—the largest number in the history of the program.

The ten memorial hospitals operated by the Union in Kentucky, Virginia and West Virginia provided 279,321 days of hospitalization to 20,000 patients.

THE LATEST HILL-BURTON PROGRESS REPORT lists 82 projects completed and in operation in Virginia. The total cost was \$62,092,068 and the number of additional beds supplied was 3,156.

At the present time, 23 projects are under construction and will supply 1,306 additional beds. The cost of these projects will be \$27,438,322.

An additional six projects have been approved and are designed to supply another 194 beds.

THE THIRTEENTH ANNUAL SURVEY of the Health Insurance Council reveals that the American people, in 1958, enjoyed greater security against the costs of illness or injury than ever before. The total number of persons protected and health insurance benefit payments reached new heights. The total number of persons protected by some form of voluntary health insurance increased to 123,000,000 by the year's end. Benefits to help pay hospital and medical expenses and replace income lost through disability totaled \$4.7 billion.

DID YOU KNOW that there are more than 300,000 eye injuries every year in industry which cost over one hundred million dollars?

HAVE YOU CONTRIBUTED TO THE AMERICAN MEDICAL EDUCATION
FOUNDATION?

News Notes . . .

New Members.

Since the list published in the September issue of the Monthly, the following new members have been admitted into The Medical Society of Virginia:

Alvin Eugene Conner, M.D., Manassas
John W. Emerick, Jr., M.D., Berryville
Robert D. Gardner, M.D., Charlottesville
Alastair Nixon Guthrie, M.D., Floyd
Cornelis Rol, M.D., Richmond
Yale Howard Zimberg, M.D., Richmond

What's Your Hobby?

Many members of The Medical Society of Virginia have interesting hobbies and we feel our readers would like to know about them. We hope to start a "Hobby Department" in the Monthly within the next few months and would like to have you in our "Collection". Won't you tell us about your hobby, including photographs or other illustrations?

McGuire Lecture and Symposium.

The thirty-first Annual McGuire Lecture and Symposium on Pelvic Disease will be held at the Medical College of Virginia, October 22-24.

On the 22nd, the program will begin at 9:30 A.M., and the following subjects will be presented: Mycotic Infections in Obstetrics and Gynecology by Dr. Bayard Carter, Duke University; Pediatric Vaginitis; Diagnosis and Treatment by Dr. Laman Gray, University of Louisville; Pelvic Endometriosis: Results of Treatment by Dr. Howard Ulfelder, Harvard Medical School; Advantages and Risks of Preserving the Ovary by Dr. Clyde L. Randall, University of Buffalo; Functioning Ovarian Tumors by Dr. John McLean Morris, Yale University; Ruptured Tubo-Ovarian Abscesses: Our Experience with 60 Cases by Dr. Conrad G. Collins, Tulane University; Ovarian Carcinoma with Regard to Some Therapeutic Problems by Dr. Hans L. Kottmeier, Radiumhemmet, Stockholm; Cytology in Relation to Pelvic Physiology and/or Disease by Dr. George N. Papanicolaou, Cornell University; Methods of Obtaining a Vaginal Cell Examination and Consideration of the False Positive Report by Dr. Harry M. Nelson, Wayne University; Immunologic Inhibition of Malignant Tumors in Mice by Dr. Somers H. Sturgis, Harvard Medical School; and Folic Acid Inhibitors in Chorioepithelioma by Dr. John L. McKelvey, Minnesota Medical School.

The McGuire Lecture will be at 8:30 P.M. Dr. Joe Vincent Meigs, Harvard Medical School, is the lecturer, his subject being Progress in the Diagnosis and Treatment of Pelvic Cancer.

The program on the 23rd will also begin at 9:30 A.M., and will be: Urologic Conditions in Gynecology by Dr. Richard W. TeLinde, Johns Hopkins University; Stress Incontinence in the Female Patient by Dr. Victor F. Marshall, Cornell University; Urethrovesical Suspension from Cooper's Ligament: A Follow-Up by Dr. John C. Burch, Vanderbilt University; Bladder Substitution Operations by Dr. Eugene M. Bricker, Washington University; The Incidence of Secondary Ureter Fistulas After Abdominal Radical Operations and Their Prevention by Dr. Ernst Navratil, Universitäts Frauenklinik, Graz, Austria; Surgical Closure of Large Irradiation Fistulae of the Bladder and Rectum by Dr. Marius Adolphus van Bouwijdijk-Bastiaanse, University of Amsterdam; Five-Year Survivals Following Pelvic Exenteration: A Review of 66 Cases by Dr. Alexander Brunschwig, Cornell University; The Contribution of Radiotherapy to the Modern Treatment of Female Cancer by Dr. Waring Gerald Cosbie, University of Toronto; Lymphnodectomy as an Adjunct to Radiation Therapy of Carcinoma of the Cervix by Dr. Robert A. Kimbrough, Jr., University of Pennsylvania; The Evaluation of Lymphadenectomy in Therapy of Cervical Cancer by Dr. Langdon Parsons, Boston University; The Treatment of Carcinoma of the Vulva by Dr. Stanley A. Way, Newcastle Regional Cancer Organization, Newcastle on Tyne, England; and Ill-Advised Pelvic Surgery by Dr. Karl H. Martzloff, University of Oregon.

The annual meeting of the Society of Pelvic Surgeons will also be held at this time.

Postgraduate Conference.

The School of Medicine, University of Virginia, will hold a postgraduate conference on November 6th and 7th. On the 6th, there will be a symposium on dermatology, with the following speakers: Clinical Features of Superficial Fungous Infections by Dr. Edward P. Cawley, University of Virginia; Disorders Which May Be Confused with Superficial Fungous Infections by Dr. Carl S. Lingamfelter, University of Virginia; Clinical and Experimental Studies with Griseofulvin, an Antifungal Antibiotic by Dr. Harry M. Robinson, Jr., University of Mary-

land; and Drug Eruptions by Dr. Clayton E. Wheeler, Jr., University of Virginia. In the afternoon there will be time for attendance at Special Clinics and Conferences in small groups and a Clinical Pathological Conference.

On the 7th, there will be a symposium on chemotherapy of cancer. Speakers and subjects will be: Endocrine Control of Cancer by Dr. Vincent P. Hollander and Dr. E. Meredith Alrich, University of Virginia; Management of Leukemia and Lymphoma by Dr. David A. Karnofsky, Cornell Medical College, New York; and Management of Prostatic Cancer by Dr. Albert J. Paquin, Jr., University of Virginia.

In the afternoon, there will be a football game between the University of Virginia and the University of South Carolina. One hundred and fifty good seats have been reserved and will be held until October 31st. Any doctor wishing to attend may write for a ticket to: Football Ticket Office, Athletic Department, University of Virginia, Charlottesville. The price for each ticket is \$4.00. In writing for tickets, mention that you are with the postgraduate conference medical group.

State Board of Medical Examiners.

At the regular meeting of the Virginia Board of Medical Examiners in Richmond on June 17, 1959, the following physicians were licensed by reciprocity with some other Examining Board.

Dr. William Louis Amoroso, Jr., Washington, D. C.
 Dr. Lawrence Carter Ball, Roanoke
 Dr. Charles Floyd Ballou, III, Clifton Forge
 Dr. Patsy Anthony Balsamo, Alexandria
 Dr. Joseph Eugene Bartkowski, Arlington
 Dr. William Leneave Berkley, Lynchburg
 Dr. John Henry Boulware, Danville
 Dr. Michael Anthony Corrado, Sterling
 Dr. Joseph Samuel Costa, Alexandria
 Dr. Barry Decker, Richmond
 Dr. Stephen William Dejter, Bethesda, Md.
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 Dr. Robert Francis Dyer, Washington, D. C.
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 Dr. Mark Joseph Fitzpatrick, Alexandria
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 Dr. Chris Benton Foster, Jr., Salem
 Dr. James Joseph Foster, Washington, D. C.
 Dr. Lynn Darcy George, Arlington
 Dr. Wilbur Albert Hamman, Jr., Petersburg
 Dr. Jerrold Eugene Hammond, Charlottesville
 Dr. Austin Alexis Herr, Jr., Durham, N. C.
 Dr. William Hollister, Jr., Richmond
 Dr. Michael Homa, Arlington
 Dr. Phillip Kenneth Huggins, Williamsburg
 Dr. Anne E. Fulcher Hunter, Cismont

Dr. Ruth Elizabeth Kerr Jakoby, Washington, D. C.
 Dr. Robert Irwin Jaslow, Chambersburg, Pa.
 Dr. Joseph Laesser Kuhn, Snyder, N. Y.
 Dr. Samuel Dennis Loube, Washington, D. C.
 Dr. Chalmers Albert Loughridge, Alexandria
 Dr. Robert Irvin McClaughry, Alexandria
 Dr. James Jerry McFarland, Jr., Washington, D. C.
 Dr. Thomas George McWilliams, Arlington
 Dr. George Joseph Arthur Magnant, Falls Church
 Dr. Romulus Leary May, Arlington
 Dr. Robert Allen Mendelsohn, Washington, D. C.
 Dr. Sheldon Barnet Meyerson, Virginia Beach
 Dr. Francis Peter Milone, Washington, D. C.
 Dr. Richard Ben Moore, Wise
 Dr. Jorge Benigno Morales-Rodas, Bethesda, Md.
 Dr. Harold Edwin Muller, Hampton
 Dr. William Bruce Newton, Jr., Williamsburg
 Dr. Albert Joseph Paquin, Jr., Charlottesville
 Dr. Dee Rich Parkinson, Washington, D. C.
 Dr. John Hulbert Parks, Charlottesville
 Dr. Walter Stauffer Price, Newport News
 Dr. John Taylor Purvis, Charlottesville
 Dr. Jacob John Robbins, Portsmouth
 Dr. Irving Schneider, Hyattsville, Md.
 Dr. Abe Leon Schwartz, Cincinnati, Ohio
 Dr. Junior Arthur Seaholm, Richmond
 Dr. Frederick William Shillinger, Hampton
 Dr. Merritt Butler Shobe, Kingsport, Tenn.
 Dr. Richard Shuman, Norfolk
 Dr. Paul Ervin Simpson, Raleigh, N. C.
 Dr. Frank Herbert Small, III, Washington, D. C.
 Dr. Eleanor Ruth Stewart, Vienna
 Dr. Lever Flegal Stewart, Charlottesville
 Dr. Robert Tudor Strang, Kingsport, Tenn.
 Dr. Shirley Towey Swain, Arlington
 Dr. Kenneth William Taber, Fullerton, Pa.
 Dr. Nelson Monroe Tart, Falls Church
 Dr. James Richard Van Arsdall, Roanoke
 Dr. Harold Lee Williams, Newport News
 Dr. Charles Pinckney Winkler, Ronceverte, W. Va.

The Board conducted examinations on June 18-20 inclusive. The following were licensed by examination.

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 Dr. Ahmet Aksu, Brooklyn, N. Y.
 Dr. Spencer D. Albright, III, Hanover, N. H.
 Dr. Haddon C. Alexander, III, Farmville
 Dr. Rudi Ansbacher, Charlottesville
 Dr. Douglas Kenley Armbrister, Emory
 Dr. Gudrun M. Augustin-Rueckert, Washington, D. C.
 Dr. Leonard Anthony Austin, Richmond
 Dr. Jose Bargas V., Roanoke
 Dr. Walter Seignious Barton, Roanoke
 Dr. Robert Wallace Baxter, Richmond
 Dr. Thomas Morgan Beamon, Springfield, Ohio
 Dr. Morton Bender, Richmond
 Dr. Frederic A. Berry, Jr., Santa Barbara, Calif.
 Dr. John Helmut Bihl, Northville, Mich.
 Dr. John Robert Blackmore, Allendale, N. J.
 Dr. John William Bolen, Galax
 Dr. Robert Henry Bowden, Jr., Madisonville, Ky.

Dr. Reuben H., Broadus, Jr., Bowling Green
 Dr. Samuel Frederick Brunk, Harrisonburg
 Dr. Gilbert Hamilton Bryson, Richmond
 Dr. Charles Leon Burns, Jr., Roanoke
 Dr. Joseph Cameron Campbell, Marion
 Dr. John Carpathios, Canton, Ohio
 Dr. Martha Alma Carpenter, Brightwood
 Dr. Albert Ayerst Carr, McKenney
 Dr. Andre Chabot, Chicago, Ill.
 Dr. Najib Chaljub, New York, N. Y.
 Dr. Chee Kong Chu, Lockport, N. Y.
 Dr. Allen Manville Clague, Jr., Kingsport, Tenn.
 Dr. Ernest Linwood Clements, Jr., Richmond
 Dr. Laurence Lee Cockerille, Jr., Washington
 Dr. Charles William Coppedge, Powhatan
 Dr. Duane Emmett Cozart, St. Louis, Mo.
 Dr. William Frederick Crutchley, Jr., Richmond
 Dr. William Edward Daley, Wilmington, Del.
 Dr. James Douglas Deacon, Hot Springs
 Dr. Mary Jane de Carvalho, Los Angeles, Calif.
 Dr. William Daniel Deep, Richmond
 Dr. Roy William Dent, Jr., Roanoke
 Dr. John Frederic Denton, Emory
 Dr. Joseph Devitofranceschi, New York, N. Y.
 Dr. Otis William Doss, Jr., Richmond
 Dr. Mitchell Joe Dreese, Arlington
 Dr. Jack Hendrik Druff, Staunton
 Dr. Carlos Rafael Duarte, Chattanooga, Tenn.
 Dr. Richard Joseph Duma, Portsmouth
 Dr. Charles Little Echols, Jr., Covington
 Dr. Clarence Carl Edwards, Richmond
 Dr. Russell Austin Enke, Yonkers, N. Y.
 Dr. Inta Ilze Janners Ertel, Perth Amboy, N. J.
 Dr. Paul Yount Ertel, Perth Amboy, N. J.
 Dr. Blackwell Bugg Evans, Bon Air
 Dr. William Noel Fender, Portsmouth
 Dr. Francisco Javier Figueroa, Mount Vernon, N. Y.
 Dr. John David Fletcher, Appalachia
 Dr. Frederick Bruce Forward, Jr., Penn Laird
 Dr. Louis Arnold Frederick, Salt Lake City, Utah
 Dr. Charles Conrad Freed, Jr., Dallas, Texas
 Dr. Bernard Fruchtman, Charlottesville
 Dr. Robert Waverly Fry, Norfolk
 Dr. James Lee Gardner, Abingdon
 Dr. Richard Holt Gascoigne, Kohler, Wis.
 Dr. Arthur Sewell Gear, Jr., Richmond
 Dr. Darrell Kay Gilliam, Richmond
 Dr. Robert A. Gindin, Highland Park, N. J.
 Dr. Sheldon David Glass, Charlottesville
 Dr. Garry Arnold Goldstein, Norfolk
 Dr. Charles McD. Graham, Jr., Purcellville
 Dr. Antonio Graziano, Burkeville
 Dr. John Gusdon, Jr., Cleveland, Ohio
 Dr. George Henry Guy, Charlottesville
 Dr. Jack William Hall, Sandston
 Dr. William Overton Harris, Jr., Richmond
 Dr. Charles Henry Harrison, Arlington
 Dr. Valeriano D. Hereza, Saginaw, Mich.
 Dr. Charles Edwin Hess, Conaway
 Dr. George Milton Hostetler, Wichita, Kans.
 Dr. Joseph R. B. Hutchinson, Jr., Arlington
 Dr. Hans-Peter Jabusch, Somers Point, N. J.
 Dr. Lacey Milton Jacobs, Jr., Richmond

Dr. Bernard Francis Jamison, Petersburg
 Dr. Nikolas Janovski, Washington, D. C.
 Dr. William Thomas Johnson, Jr., Richmond
 Dr. Herman Leo Kamenetz, Rock Hill, Conn.
 Dr. Robert Lionel Kent, Man, W. Va.
 Dr. John Norman King, Norfolk
 Dr. Mervyn Robert King, Kansas City, Kans.
 Dr. William Blaine Kingree, Middletown
 Dr. Roman Renatus Knoblich, Detroit, Mich.
 Dr. Johann A. Koenig, Perth Amboy, N. J.
 Dr. John Wilson Kolmer, Richmond
 Dr. Luis Senties Krause, Roanoke
 Dr. Lawrence Robert Krivit, Deal, N. J.
 Dr. Leo Darrell Lagasse, Van Nuys, Calif.
 Dr. Biong Woo Lee, Kingsport, Tenn.
 Dr. Pyong Tai Lee, Atlantic City, N. J.
 Dr. Withrow Reynolds Legge, Jr., Richmond
 Dr. James Robert Leonard, Danville
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 Dr. Otto Friedrich Muller, Upper Darby, Pa.
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 Dr. Julian Joseph Ney, Harrisonburg
 Dr. Stanton Peelle Nolan, Chevy Chase, Md.
 Dr. Ilhan Sucru Nuraltay, Colony
 Dr. Rosa Christiane Ogle, Waynesboro
 Dr. David Phlegar Olinger, Charlottesville
 Dr. Fletcher Bailey Owen, Jr., Highland Springs
 Dr. Robert Nelson Page, Jr., Beaver Dam
 Dr. Enrique Penades, Richmond
 Dr. John Mathews Pitman, Jr., Williamsburg
 Dr. Robert Leroy Putze, Danville
 Dr. Frederick Rahal, Los Angeles, Calif.
 Dr. James Charles Rahman, Richmond
 Dr. Arthur Jarrell Raper, Richmond
 Dr. Patrick Augustine Reardon, Washington, D. C.
 Dr. Michael Kenneth Rees, Richmond
 Dr. Paul Gregg Rhodes, Washington, D. C.
 Dr. Marion Dickenson Richmond, St. Paul
 Dr. Harold Lee Riley, III, Lynchburg
 Dr. Ella Janichewski Rivat, Baltimore, Md.
 Dr. Dudley Skinner Robertson, Jr., Wakefield
 Dr. David Elijah Robinette, Coeburn
 Dr. Lewis R. Roddy, Williamsburg
 Dr. Giuseppe Rossi, Rome, Ga.
 Dr. Wilson Baxter Rumble, Portsmouth
 Dr. Anatol Ryplansky, Rochester, N. Y.

Dr. David Lawrence Sagman, Mount Vernon, N. Y.
 Dr. Joseph Sakakini, Jr., Norfolk
 Dr. R. Nito Santiago, Fords, N. J.
 Dr. Joyce Herrin Saunders, Bryn Mawr, Pa.
 Dr. Abraham Scheinbaum, Kansas City, Mo.
 Dr. Ludwig Eberhard Schlitt, Drexel Hill, Pa.
 Dr. Eon Shin, Northville, Mich.
 Dr. George Edward Shissler, Sunbury, Pa.
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 Dr. Will L. Williams, Washington, D. C.
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 Dr. Wolfgang August Wirth, Norfolk
 Dr. William Robert Wisman, Edinburg

In the examination for medicine there were 141 American or Canadian trained physicians and 49 who were foreign trained.

The officers of the Board are Dr. Russell M. Cox, Portsmouth, Virginia, President. Dr. John C. Watson of Alexandria, Virginia Vice-President and Dr. K. D. Graves of Roanoke, Virginia Secretary-Treasurer.

The next Board meeting will be held in Richmond, Virginia December 1, and the examinations will follow, on December 2-4 inclusive.

Dr. Fears Featured in "Commonwealth".

Dr. Belle DeCormis Fears, Accomac, was featured in an article in the August issue of "The Common-

wealth", the monthly magazine of the Virginia State Chamber of Commerce.

The Pulaski County Medical Society,

Which has been dormant for a number of years, held a re-organizational meeting in June and named Dr. W. W. Walton as president, Dr. William F. McGuire, vice-president, and Dr. W. Fredric Delp, secretary-treasurer.

The Society will continue to be a component part of the Southwestern Virginia Medical Society.

Dr. Hiram W. Davis,

State Commissioner of Mental Hygiene and Hospitals, Richmond, has been named to a committee on planning for mental health facilities throughout the United States. The 12-member committee will work with the Public Health Service in formulating treatment and administrative guidelines which may be used in developing plans for mental health facilities.

Dr. David M. Hume,

Professor and Chairman of the Department of Surgery, Medical College of Virginia, was one of three doctors from the United States who addressed the International Society of Surgery's 18th Congress in September in Munich, Germany. He read a paper on kidney grafts, pointing out both the clinical and research work done on them at the Medical College of Virginia.

DePaul Hospital Staff.

Dr. Helen W. Taylor has recently been named president-elect of the medical staff of DePaul Hospital, Norfolk. Dr. John S. Thiemeyer, Jr., was elected chief of staff and Dr. Charles E. Horton re-elected secretary.

Dr. Cake Injured.

Dr. Charles P. Cake, Arlington, lost his left arm in an automobile accident near Clifton Forge in August. He and Mrs. Cake were returning home after visiting relatives.

Dr. Barrett Resigns.

Dr. Joseph E. Barrett, superintendent of Eastern State Hospital, Williamsburg, has announced his resignation effective October 15th. He would be eligible for retirement in April 1960, but submitted his resignation at this time to accept an invitation from another state to help with its mental health program. Dr. Barrett was commissioner of mental health and hygiene for Virginia from 1946 to 1957.

He began his Virginia service as clinical director of Southwestern State Hospital, Marion, in 1939.

Westbrook Sanatorium Approved.

Westbrook Sanatorium, Incorporated, Richmond has recently been approved by the Joint Commission on Accreditation of Hospitals. This hospital was recently inspected and also approved by the Central Inspection Board which is an agency of the American Psychiatric Association. Slightly over forty psychiatric hospitals in the country have been approved by the Board.

4-H Club Health Projects Awards.



For the third consecutive year The Medical Society of Virginia has presented awards to those members of the 4-H Club who completed outstanding health projects.

Dr. Cecil G. Finney, Chairman of the Committee on Rural Health, represented the Society at a special awards ceremony in Blacksburg. Pictured with him are, left to right: Linda Murphy, Elizabeth Ann Felton, Patti Delk, Mary Virginia Thomas, and Ann Gordon Jenkins.

Dedication of Dixie Hospital.

Dedication exercises for Dixie Hospital's new home in Hampton were held on August 1st and 2nd. Open house for the general public was held and all of the six-story building's modern facilities were on display.

Dr. Thomas H. Hunter, dean of medicine of the University of Virginia, delivered the dedicatory address.

Dr. Cary Suter

Has been appointed Assistant Professor at the Medical College of Virginia in the Division of Neurology and is the Neurologist in charge of Electroencephalography. He was formerly Assistant of Neurology and Psychiatry at the University of Virginia and has completed a two-year National Institutes of Health Fellowship in Neurology at the Mayo Clinic.

Administrator at Sheltering Arms Hospital.

Samuel T. Waddell has been appointed as administrator of Sheltering Arms Hospital, Richmond. He

is a native of Danville and received his degree in hospital administration from the Medical College of Virginia in June.

Northern Virginia Heart Association.

Drs. Albert Rigsbee and J. L. Zylman, Falls Church, are among those named to the Board of Directors of this Association for three-year terms. Dr. J. Raymond B. Hutchinson, Arlington, is president.

Wanted.

One male psychiatrist, under 50 years, Diplomate or Board eligible, to direct privately operated outpatient clinic in Charleston, West Virginia. Salary: \$20,000-25,000 per annum. Write #625, care the Virginia Medical Monthly, 4205 Dover Road, Richmond 21, Virginia.

Obituaries

Dr. Porter Paisley Vinson,

Widely known specialist in diseases of the chest, of Richmond, died in Rochester, Minnesota, August 22nd. He had undergone an abdominal operation and a subsequent operation on his leg but death was due to coronary insufficiency due to coronary sclerosis. Dr. Vinson was a native of North Carolina and sixty-eight years of age. He received his medical degree from the University of Maryland in 1914. Dr. Vinson was one of the first fellows in medicine of the Mayo Foundation. Following service in the Medical Corps of the U. S. Army during the first World War, he was appointed a first assistant in the section of medicine of the late Dr. William A. Plummer and in 1921 was appointed to the staff of the Mayo Clinic as a consultant in medicine with a special interest in diseases of the chest. He was notably skilled in the techniques of examination of the esophagus and bronchial structures by means of special diagnostic instruments and was regarded as an authority on diseases of the esophagus and by the time he left Rochester in 1936 had contributed more than 125 papers to the medical literature on diseases of the chest in general. Dr. Vinson located in Richmond in 1936 for the practice of internal medicine and became professor of bronchoscopy, esophagoscopy and gastroscopy of the Medical College of Virginia. He was president of the Alumni Association of the Mayo Foundation in 1941 and was a member of many national and local medical and fraternal organizations. He had been a member of The Medical Society of Virginia since 1936.

Dr. Vinson is survived by his wife, a son and two daughters.

Dr. Merritt Wood Healy,

Well-known physician of Norfolk, died August 14th. He was a native of Pennsylvania and seventy-

six years of age. Dr. Healy graduated from the former University College of Medicine, Richmond, in 1906. He was wounded in action in the First World War, having served overseas as captain of an ambulance division. After his discharge from military service, Dr. Healy located for practice in Norfolk. For thirty-eight years, he was surgeon for the Norfolk Shipbuilding and Drydock Corporation. Dr. Healy was a Life Member of The Medical Society of Virginia, having joined in 1908.

His wife survives him.

Dr. Altamont H. Bracey,

South Hill, died September 11th. He was fifty-eight years of age and a graduate of the Medical College of Virginia in 1928. Dr. Bracey was surgeon at the Stevens Clinic Hospital, Welch, West Virginia, from 1933 to 1951 and came to South Hill at the end of that time. He served as chief of the staff at Community Memorial Hospital, South Hill, for two years and was a member of the staff at the time of his death. Dr. Bracey had been a member of The Medical Society of Virginia for twenty-five years. He was also a member of the South Hill Chamber of Commerce.

Dr. John Bolling Vaiden,

Lawrenceville, died September 12th at the age of seventy-one. He was a native of New Kent County and a graduate of the Medical College of Virginia, class of 1914. Dr. Vaiden had practiced in Lawrenceville for thirty years. He was a member of Mann Page Lodge, AF&FM, at Providence Forge. He had been a member of The Medical Society of Virginia since 1933.

His wife and a sister survive him.

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*Pratt, R. T. C., and McKenzie, W.: Anxiety States Following Vestibular Disorders, *Lancet* 2:347 (Aug. 16) 1958.

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The next meeting of the Virginia Board of Medical Examiners will be held at the Richmond Hotel, Richmond, Virginia, December 1, 1959. The examinations will be held at the Hotel, December 2-4, inclusive. All applications and other documents pertaining to the examinations or to matters to be discussed by the Board must be on file in the Secretary's office on or before November 10, 1959. The Secretary of the Board is Dr. K. D. Graves, 631 First Street, S. W., Roanoke, Virginia.

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Fri., Oct. 2, 1959, The Skirvin Hotel

BIRMINGHAM, ALABAMA

Sun., Oct. 11, 1959, The Dinkler-Tutwiler Hotel

TACOMA, WASHINGTON

Wed., Oct. 14, 1959, The Hotel Winthrop

TRAVERSE CITY, MICHIGAN

Fri., Oct. 23, 1959, The Park Place Hotel

LUBBOCK, TEXAS

Sat., Oct. 31, 1959, The Lubbock Country Club

ST. CHARLES, ILLINOIS

Wed., Nov. 4, 1959, The St. Charles Country Club

DALLAS, TEXAS

Fri., Nov. 6, 1959, The Hilton Hotel

WICHITA, KANSAS

Sat., Nov. 7, 1959, The Hotel Broadview

SCHENECTADY, NEW YORK

Thurs., Nov. 12, 1959, The Mohawk Golf Club

CORPUS CHRISTI, TEXAS

Fri., Nov. 13, 1959, The Robert Driscoll Hotel

RIVERSIDE, CALIFORNIA

Sun., Nov. 15, 1959, The Mission Inn

SANTA BARBARA, CALIFORNIA

Wed., Nov. 18, 1959, The Santa Barbara Biltmore

MOLINE, ILLINOIS

Wed., Dec. 2, 1959, The LeClaire Hotel

1960 Symposia (incomplete schedule)

DENVER, COLORADO

Sun., Jan. 10, 1960, The Cosmopolitan Hotel

AUSTIN, TEXAS

Fri., Jan. 15, 1960, The Commodore Perry

POCATELLO, IDAHO

Sat., April 2, 1960, The Bannock Hotel

MOORHEAD, MINNESOTA

Sat., April 9, 1960, The Frederick Martin Hotel

SALT LAKE CITY, UTAH

Fri., April 22, 1960, Hotel Utah

ST. LOUIS, MISSOURI

Sun., May 1, 1960, Chase-Park Plaza

SANTA ROSA, CALIFORNIA

Fri., Sept. 16, 1960, The Flamingo Hotel

GREAT FALLS, MONTANA

Sat., Oct. 22, 1960, The Rainbow Hotel

CHARLESTON, WEST VIRGINIA

Sun., Oct. 30, 1960, The Daniel Boone Hotel

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References: 1. Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958. 4. Bonica, J. J.: in Drugs of Choice, Mosby, St. Louis, 1958, p. 272. 5. Dascomb, H. E.: in Current Therapy, Saunders, Phila., 1958, p.78. 6. Bickerman, H. A.: in Drugs of Choice, Mosby, St. Louis, 1958, p.547.

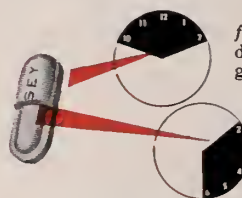
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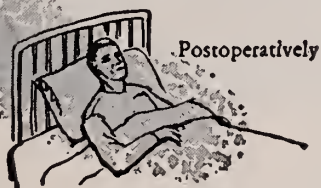
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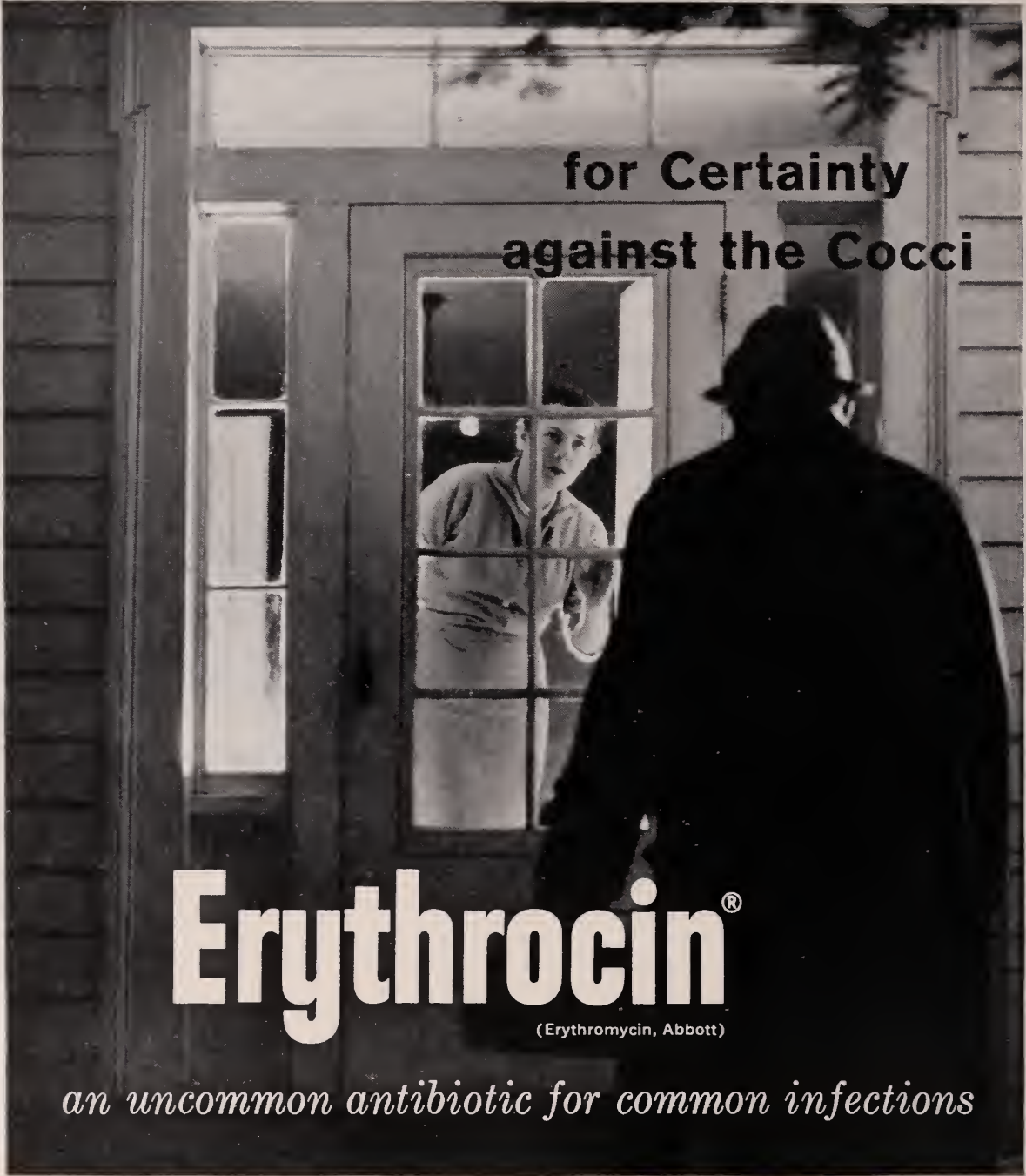
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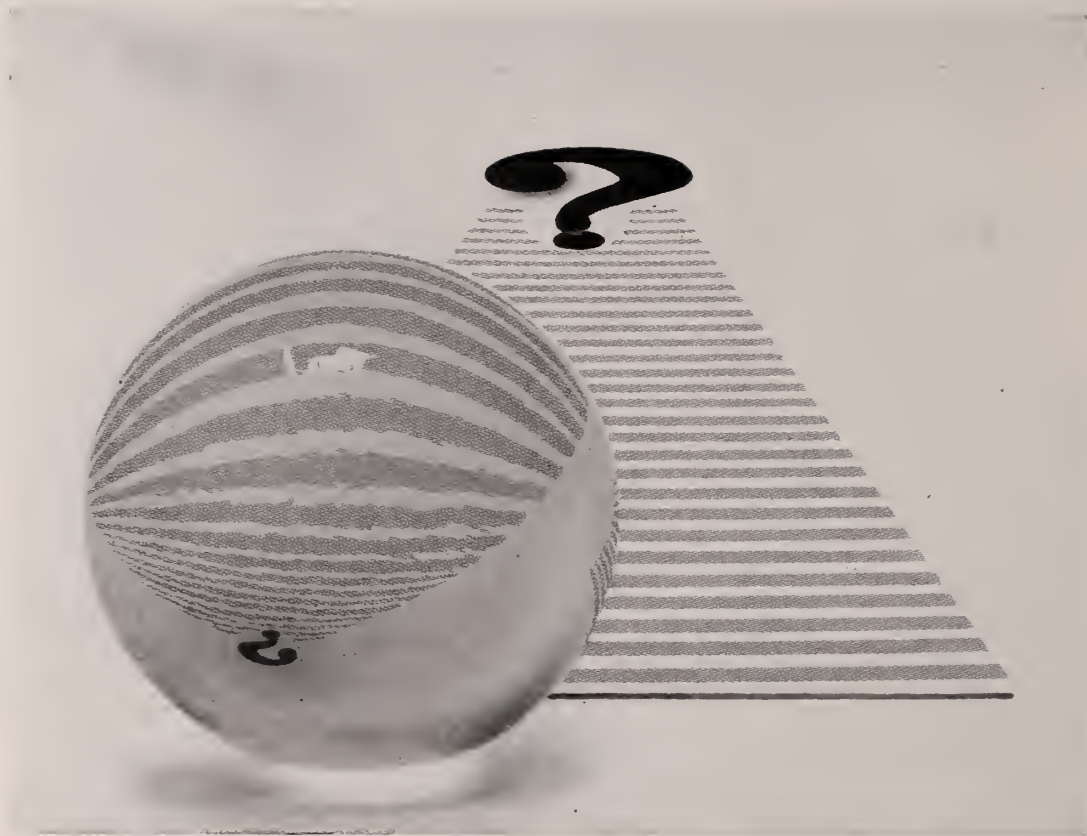
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References: 1. Dowling, H. F.: Postgrad. Med. 23:594 (June) 1958. 2. Gimble, A. I.; Shea, J. G., and Katz, S.: Antibiotics Annual 1955-1956, New York, Medical Encyclopedia Inc., 1956, p. 678. 3. Long, P. H., in Kneeland, Y. Jr., and Worris, S. B.: Bull. New York Acad. Med. 33:552 (Aug.) 1957. 4. Rein, C. R.; Lewis, L. A., and Dick, L. A.: Antibiotic Med. & Clin. Ther. 4:771 (Dec.) 1957. 5. Stone, M. L., and Mersheimer, W. L.: Antibiotics Annual 1955-1956, New York, Medical Encyclopedia Inc., 1956, p. 862. 6. Campbell, E. A.; Prigot, A., and Dorsey, G. M.: Antibiotic Med. & Clin. Ther. 4:817 (Dec.) 1957. 7. Chamberlain, C.; Burros, H. M., and Borromeo, V.: Antibiotic Med. & Clin. Ther. 5:521 (Aug.) 1956. 8. From, P., and Aili, J. H.: Antibiotic Med. & Clin. Ther. 5:639 (Nov.) 1956.

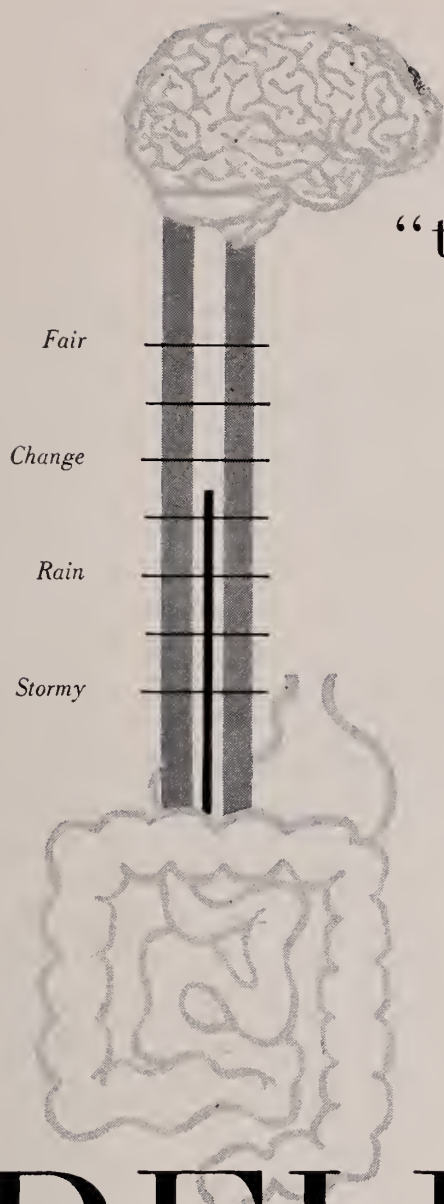
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1. Based on estimate by Van Volkenburgh, V. A., and Frost,
W. H.: Am. J. Hygiene 71:122 (Jan.) 1933



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1. Rubin, W., and Anderson, J. R.: *Angiology*, Oct. 1958.

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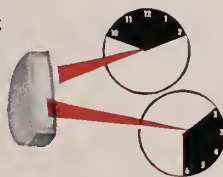
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- in allergic reactions of the upper respiratory tract.

safer and more effective than topical medication^{1,2,3}

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*Relief with Triaminic is prompt
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beneficial effect starts in
minutes, lasts for hours*



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dissolves within minutes
to produce 3 to 4 hours
of relief

then—the core disintegrates
to give 3 to 4 more hours
of relief

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Phenylpropanolamine HCl50 mg.
Pheniramine maleate25 mg.
Pyrilamine maleate25 mg.

One-half of this formula is in the outer layer, the other half is in the core.

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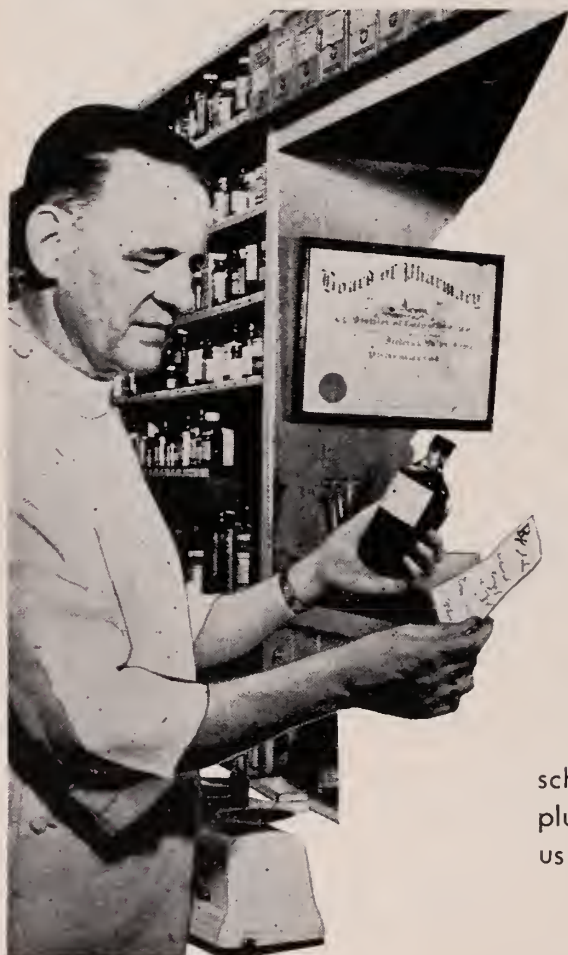
References: 1. Lhotka, F. M.: Illinois M. J. 112: 259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

TRIAMINIC JUVELETS: Each timed-release Juvelet is equivalent in formula and dosage to one-half of a TRIAMINIC tablet, for the adult or child who requires only half strength dosage.

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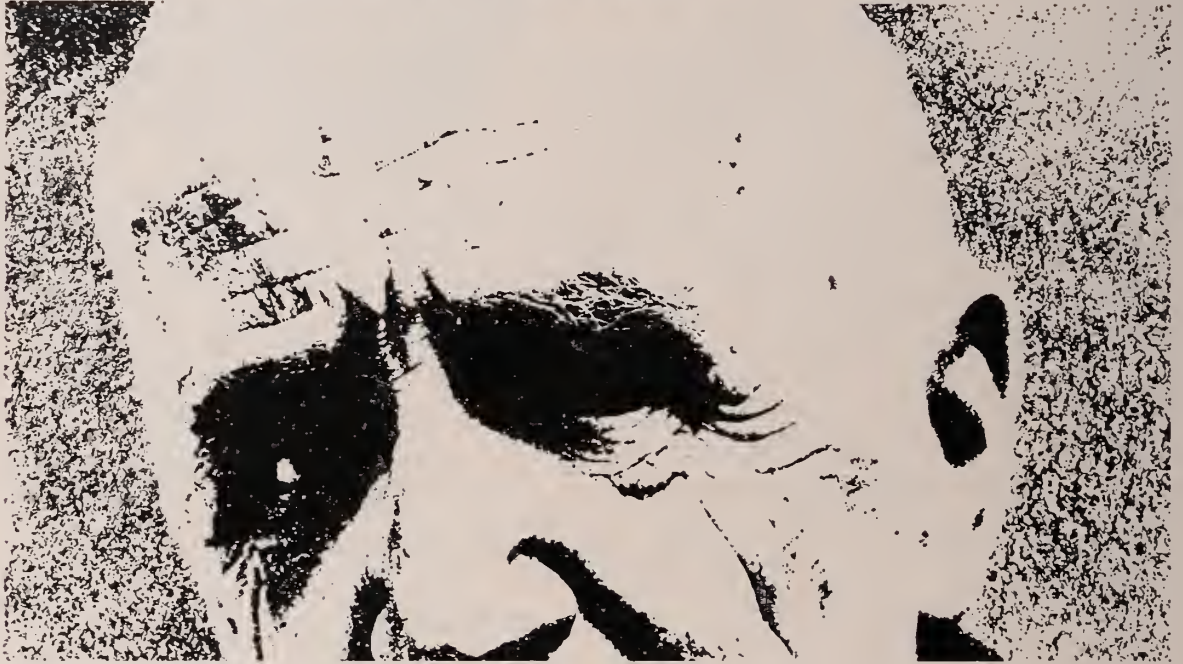
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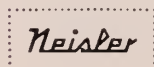
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key to Kent's popularity

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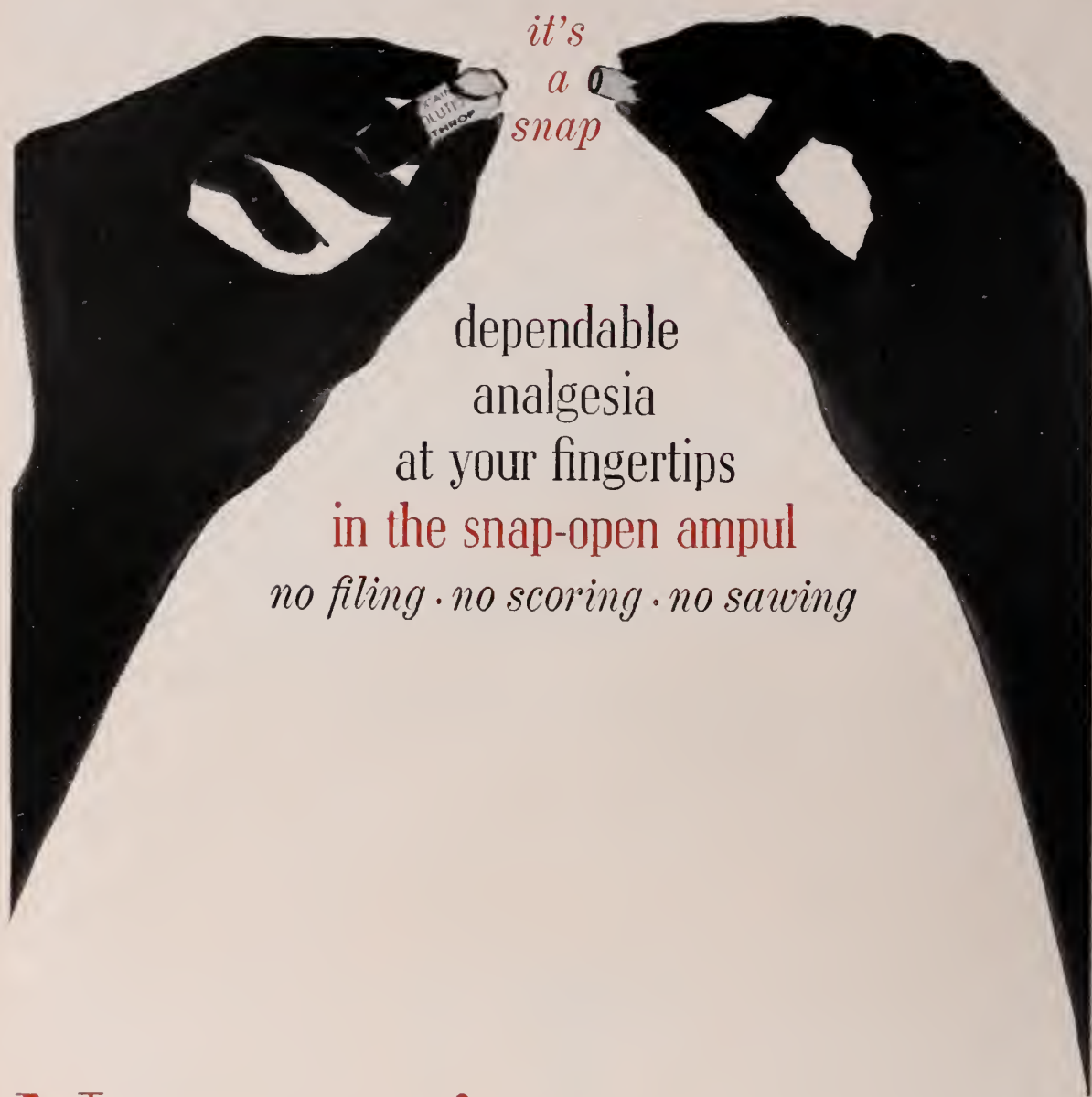
Thus, Lorillard research created a filter which reduced tars and nicotine in the "inhaled" smoke to the lowest level among the largest selling brands. As smokers learned about the "MICRONITE" Filter, they changed to Kent. During the past year, for instance, more smokers changed to Kent than to any other cigarette in America.



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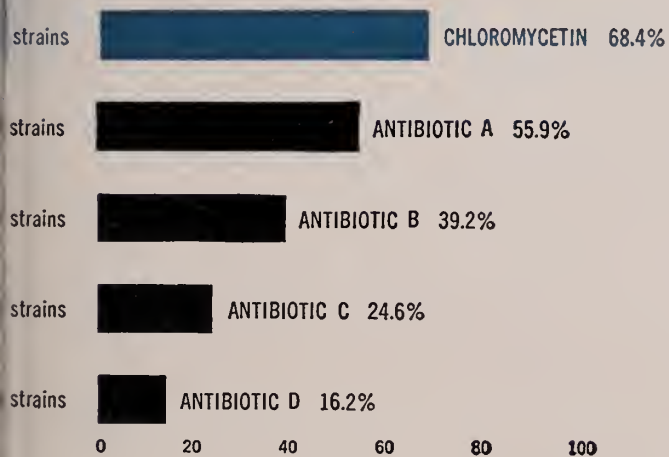
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REFERENCES: (1) Holloway, W. J., & Scott, E. G.: *Delaware M. J.* 29:159, 1957. (2) Suter, L. S., & Ulrich, E. W.: *Antibiotics Chemother.* 9:38, 1959. (3) Murphy, J. J., & Rattner, W. H.: *J.A.M.A.* 166:616, 1958. (4) Rhoads, P. S.: *Postgrad. Med.* 21:563, 1957. (5) Horton, B. F., & Knight, V.: *J. Tennessee M. A.* 48:367, 1955. (6) Seneca, H.: *Am. Pract. & Digest Treat.* 10:622, 1959. (7) H. W. H.: *M. Clin. North America* 43:191, 1959. (8) Seneca, H., et al.: *J. Urol.* 81:324, 1959. (9) Wolfsohn, A. W.: *Connecticut M.* 22:769, 1958.



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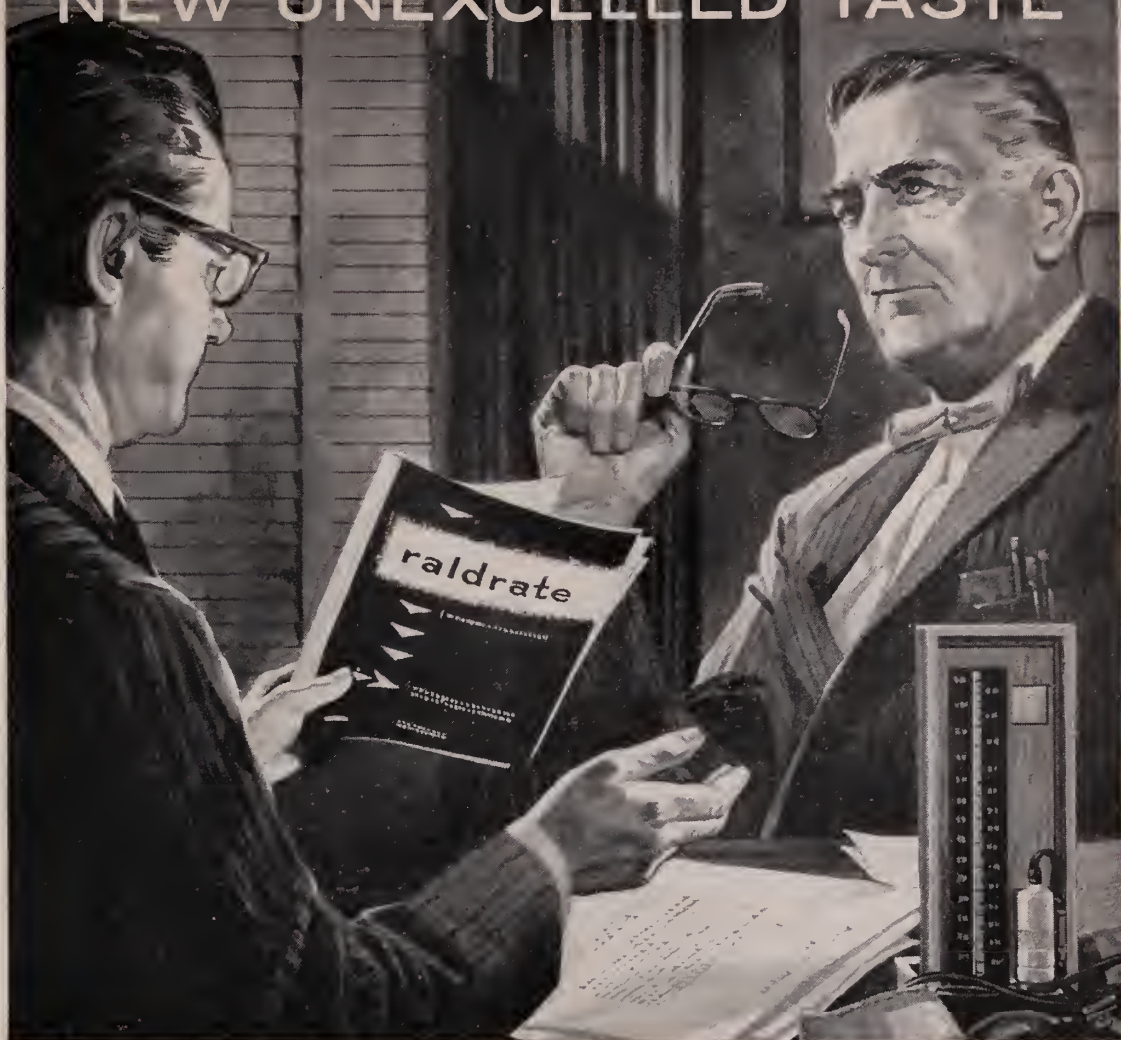
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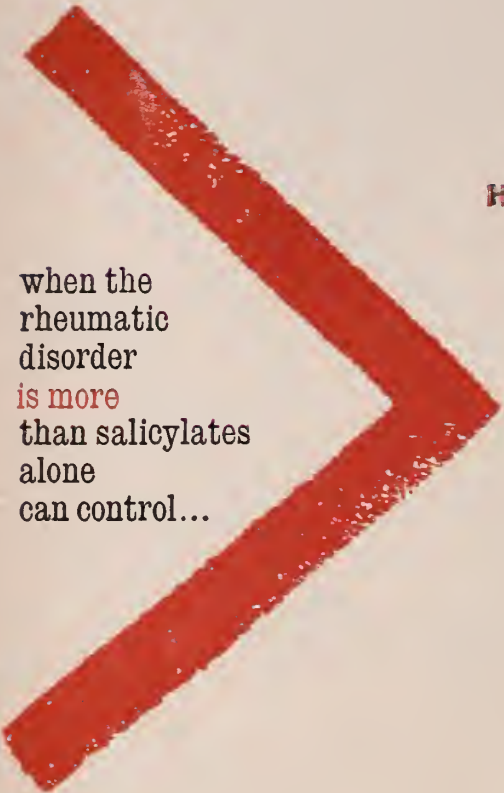
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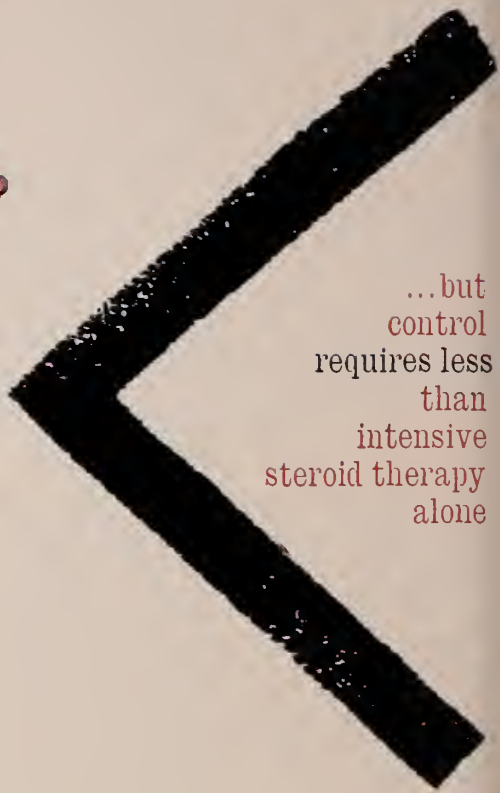
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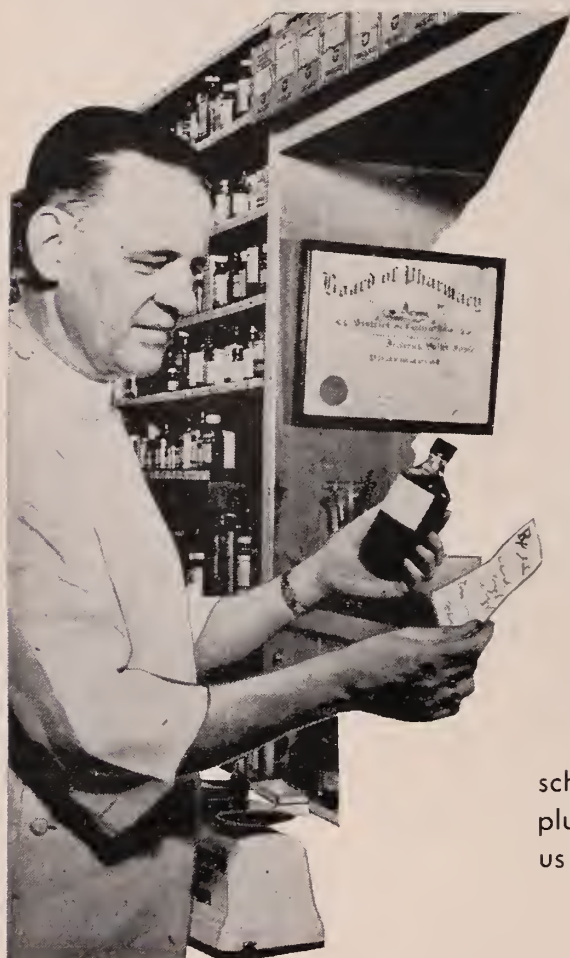
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Steroid-Analgesic Compound LEDERLE



DERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

What your Patients can Expect from **PEOPLES DRUG STORES** *Prescription Departments—*



- Complete, up-to-date stock of the most modern drugs, as well as all the older drugs now being prescribed.
- Only fresh, high-quality drugs are used in filling their prescriptions.
- Every prescription is checked, not once, but twice, to assure the utmost in accuracy and safety.
- They can rest assured that their prescription is filled exactly as the physician prescribes.
- They always pay a fair price for prescriptions at Peoples, because of the unique price schedule in use in all of our stores. Volume buying, plus this up-to-the-minute price schedule, often enable us to pass along substantial savings to your patients.

OPEN
24 Hours a Day
RICHMOND, VIRGINIA
Boulevard and Broad Streets
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For the Best Years of Their Lives



NICOZOL® COMPLEX

ORIGINAL FORMULA

Ideal New Geriatric Tonic Stimulant

NICOZOL COMPLEX is a cerebral stimulant- tonic and dietary supplement intended for geriatric use. Improves mental and physical well-being. Improves protein and calcium metabolism. Indicated during convalescence, also as a preventive agent in common degenerative changes.

Dosage:

1 teaspoonful (5 cc) 3 times a day, preferably before meals. Female patients should follow each 21-day course with a 7-day rest interval.

Supply:

NICOZOL COMPLEX is available as a pleasant-tasting elixir. Popularly priced. Bottles of 1 pint and 1 gallon.

Formula

Each 15 cc (3 teaspoonfuls) contains:

Pentylentetrazol	150 mg.
Niacin	75 mg.
Methyl Testosterone	2.5 mg.
Ethinyl Estradiol	0.02 mg.
Thiamine Hydrochloride	6 mg.
Riboflavin	3 mg.
Pyridoxine Hydrochloride	6 mg.
Vitamin B-12	2 mcg.
Folic Acid	0.33 mg.
Panthenol	5 mg.
Choline Bitartrate	20 mg.
Inositol	15 mg.
1-Lysine Monohydrochloride ..	100 mg.
Vitamin E (α-Tocopherol Acetate)	3 mg.
Iron (as Ferric Pyrophosphate) ..	15 mg.
Trace Minerals as: Iodine 0.05 mg., Magnesium 2 mg., Manganese 1 mg., Cobalt 0.1 mg., Zinc 1 mg.	
Contains 15% Alcohol	

Write for professional sample and literature.

DRUG
Specialties
INC.

WINSTON-SALEM 1, NORTH CAROLINA



Now — All cold symptoms
can be controlled



Tussagesic

timed-release tablets

Controls congestion
with Triaminic,^{1,2,3} the leading oral
nasal decongestant.

Controls aches and fever
with well-tolerated APAP, non-addic-
tive analgesic⁴ and excellent antipyretic.⁵

Each TUSSAGESIC Tablet provides:

TRIAMINIC® 50 mg.
(phenylpropanolamine HCl 25 mg.
pheniramine maleate 12.5 mg.
pyrilamine maleate 12.5 mg.)

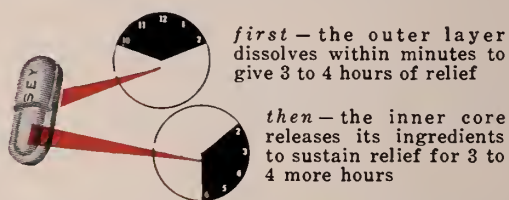
Dormethan
(brand of dextromethorphan HBr) 30 mg.
Terpin hydrate 180 mg.
APAP (N-acetyl-p-aminophenol) 325 mg.

References: 1. Lhotka, F. M.: Illinois M. J. 112:259
(Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460
(July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.)
1958. 4. Bonica, J. J.: in Drugs of Choice, Mosby, St.
Louis, 1958, p. 272. 5. Dascomb, H. E.: in Current
Therapy, Saunders, Phila., 1958, p.78. 6. Bickerman, H.
A.: in Drugs of Choice, Mosby, St. Louis, 1958, p.547.

Controls cough centrally
with non-narcotic Dormethan, possess-
ing "amply demonstrated" antitussive
activity,⁶ as effective as codeine.

Liquefies tenacious mucus
with terpin hydrate, classic expectorant.

Prompt and prolonged relief because of
this special "timed release" design:



Dosage: One tablet in the morning, midafternoon
and at bedtime. Pediatric dosage chart for
Tussagesic Suspension available on request.

TUSSAGESIC SUSPENSION provides palatability and convenience which make it
especially attractive to children and other patients who prefer liquid medication.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska

For the first time

CONVENIENCE and ECONOMY

*for that all-important first dose
of broad-spectrum antibiotic therapy*

New

TERRAMYCIN®

brand of oxytetracycline

INTRAMUSCULAR SOLUTION

Initiation of therapy in *minutes after diagnosis* with new, ready-to-inject Terramycin Intramuscular Solution provides maximum, sustained absorption of potent broad-spectrum activity.

*...and for continued, compatible,
coordinated therapy*

COSA-TERRAMYCIN®

oxytetracycline with glucosamine

Continuation with oral Cosa-Terramycin every six hours will provide highly effective antibacterial serum and tissue levels for prompt infection control.

The unsurpassed record of clinical effectiveness and safety established for Terramycin is your guide to successful antibiotic therapy.

Supply:

*Terramycin Intramuscular Solution**

100 mg./2 cc. ampules

250 mg./2 cc. ampules

Cosa-Terramycin Capsules

125 mg. and 250 mg.

Cosa-Terramycin is also available as:

Cosa-Terramycin Oral Suspension — peach flavored,
125 mg./5 cc., 2 oz. bottle

Cosa-Terramycin Pediatric Drops — peach flavored,
5 mg./drop (100 mg./cc.), 10 cc. bottle
with plastic calibrated dropper

Complete information on Terramycin Intramuscular Solution and Cosa-Terramycin oral forms is available through your Pfizer Representative or the Medical Department, Pfizer Laboratories.

*Contains 2% Xylocaine® (lidocaine), trademark of Astra Pharmaceutical Products, Inc.

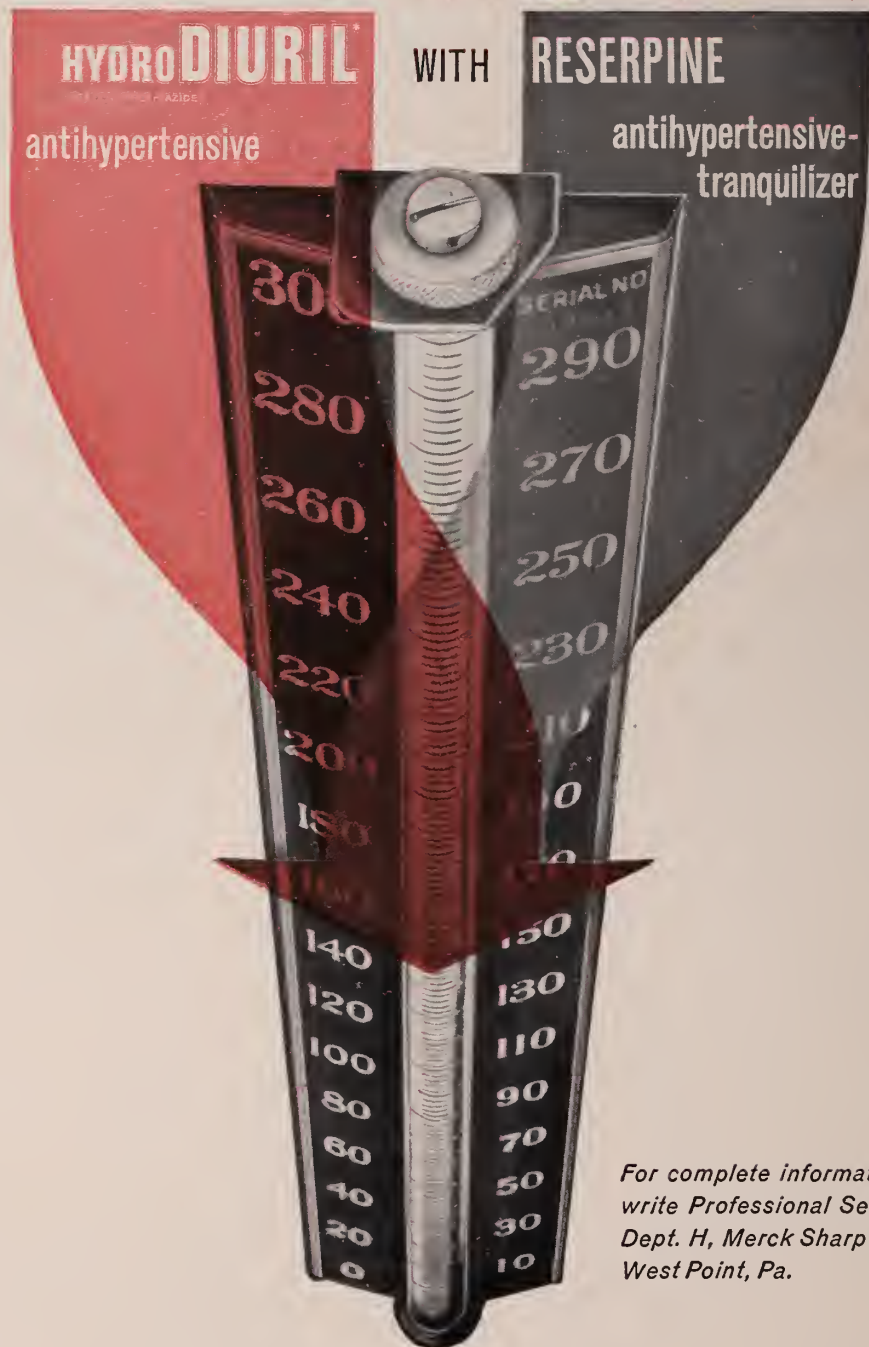
Pfizer

Science for the world's well-being™

PFIZER LABORATORIES, Division, Chas. Pfizer & Co., Inc.,
Brooklyn 6, N. Y.

greater antihypertensive effect...fewer side effects

HYDRO PRES



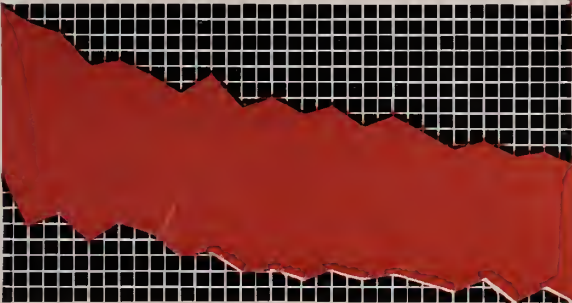
*For complete information
write Professional Services,
Dept. H, Merck Sharp & Dohme,
West Point, Pa.*



HYDRODIURIL alone



RESERPINE alone



HYDROPRES
much more effective
than either of its
components alone

- Effective by itself in a majority of patients. Provides smooth, more trouble-free management of hypertension.
- Since HYDRODIURIL and reserpine potentiate each other, the required dosage of each is lower when given together as HYDROPRES than when either is given alone.
- HYDROPRES provides the needed and valuable tranquilizing effect of reserpine. Lower dosage may reduce such side effects of reserpine as excessive sedation and depression.
- Arrest or reversal of organic changes of hypertension may occur.
- Headache, dizziness, palpitations and tachycardia are usually promptly relieved. Anginal pain may be reduced in incidence and severity.
- With HYDROPRES, dietary salt may be liberalized.
- Convenient, controlled dosage.

HYDROPRES-25

25 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one to four times a day.

HYDROPRES-50

50 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one or two times a day.

If the patient is receiving ganglion blocking drugs or hydralazine,
their dosage must be cut in half when HYDROPRES is added.



MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

®HYDRODIURIL AND HYDROPRES ARE TRADEMARKS OF MERCK & CO., INC.



ADJUSTABLE LEVEL OF ANALGESIA

VARYING LEVEL OF PAIN

8 AM

12 N

keep all patients* pain-free at all times

- with the proper potency to match pain intensity
- with dosage flexibility to match pain variations

Phenaphen[®]

or

Phenaphen[®] with Codeine



*except those for whom recourse to morphine is inescapable.

Robins

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA
Ethical Pharmaceuticals of Merit since 1878



Phenaphen and Phenaphen with Codeine provide a wide range of analgesia, plus complete dosage flexibility, to match varying pain requirements.

Yours to prescribe:

The **right** dose of the **right** potency at the **right** time.

Phenaphen

Basic non-narcotic formula

For mild to moderate pain

Each capsule contains:

Phenacetin (3 gr.)194.0 mg.
Acetylsalicylic acid (2½ gr.).....162.0 mg.
Phenobarbital (¼ gr.) 16.2 mg.
Hyoscyamine sulfate.....0.031 mg.

Phenaphen No. 2

Phenaphen with Codeine Phosphate ¼ gr. (16.2 mg.)

For moderate to severe pain

Phenaphen No. 3

Phenaphen with Codeine Phosphate ½ gr. (32.4 mg.)

For severe or stubborn pain

Phenaphen No. 4

Phenaphen with Codeine Phosphate 1 gr. (64.8 mg.)

For stubborn or intense pain—to obviate or postpone use of morphine or addicting synthetic narcotics

DOSAGE: One or two capsules as required.

PHYSICIANS

Enroll Now in these Insurance Plans

Approved by The Medical Society of Virginia

Sometimes the physician neglects his own affairs while giving time and energy to the welfare of others. Undoubtedly that is a principal reason why some members of The Medical Society of Virginia have not availed themselves of the extraordinary advantages offered in the personal insurance programs which have been approved by their own organization. Many members of the Society have taken advantage of the two low-cost group programs and both plans are in effect right now. You simply cannot afford to miss this opportunity for your own protection. Outstanding features of the two separate and distinct group plans include the following:

PLAN NUMBER ONE

Major Hospital Nursing

Provides coverage for you, and your wife to age 70, also dependent, unmarried children between the age of fourteen days and twenty-three years. Protection up to \$10,000 within three years of accident or sickness is provided. The same amount is provided for any sickness for which payment has been made that occurs after an interval of twelve months.

The plan pays 100% room and board and 100% of the necessary charges for hospital care and treatment. It pays 75% of special nurse expense in the hospital. You have a choice of three deductible amounts to keep your premiums within the range you prefer.

PLAN NUMBER TWO

Professional Overhead Expense

Pays direct to you the covered expense of maintaining your practice should you be disabled.

The premiums you pay under Plan Number 2 are *tax deductible*. Both plans are underwritten by American Casualty Company of Reading, Pennsylvania. Brochures have been mailed to all members of The Medical Society of Virginia. Please fill out your application and return it promptly.

Unlike most plans, our premiums *do not* increase with age.

(For further information call collect) DIamond 4-500

DAVID A. DYER, *Administrator*
Medical Arts Building
Roanoke, Virginia

start

low...

DBI

the "full-range" oral hypoglycemic agent
...safely lowers blood sugar in mild, moderate
and severe diabetes, in children and adults

go slow

The "Start Low! Go Slow!" dosage pattern with DBI enables a maximum number of diabetics to enjoy the convenience, comfort and satisfactory regulation of oral therapy in:

- stable adult diabetes
- unstable (brittle) diabetes
- juvenile diabetes
- sulfonylurea resistant diabetes

"Start Low! Go Slow" means low initial dosage (25 mg., or 50 mg. in divided doses, per day) with small dosage increments (25 mg.) every 3rd or 4th day until blood sugar levels are adequately controlled. Injected insulin is reduced gradually with each increase in DBI dosage. Satisfactory regulation of mild stable diabetes is usually achieved with DBI alone.*

On "Start Low! Go Slow!" dosage, DBI is relatively well tolerated.

Over 3000 diabetics have been carefully studied on DBI daily for varying periods up to three years. No histologic or functional changes in liver, blood, kidneys, heart or other organs were seen.

DBI (N¹-β-phenethylbiguanide) is available as white, scored tablets of 25 mg. each, bottles of 100.

*Send for brochure with complete dosage instructions for each class of diabetes, and other pertinent information.

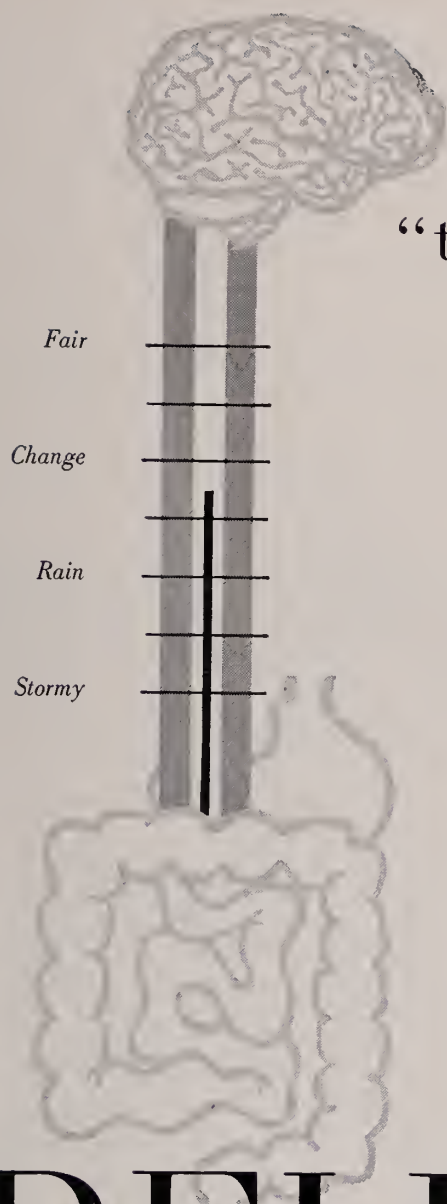


DBI

trademark
brand of
Phenformin

u. s. vitamin & pharmaceutical co.

Arlington-Funk Laboratories, division
250 East 43rd St., New York 17, N. Y.



“the G-I tract
is the
barometer
of the mind...”

Belbarb

*soothes the agitated mind
and calms the G-I spasm
through the central effect
of phenobarbital and the
synergistic action of
fixed proportions
of natural belladonna
alkaloids on the
gastrointestinal tract.*

BELBARB

SEDATIVE ANTISPASMODIC

20 years of clinical satisfaction

Belbarb No. 1; Belbarb No. 2; Belbarb Elixir; Belbarb-B; Belbarb Trisules

CHARLES C. **HASKELL** & COMPANY, Richmond, Virginia



NEW

"flavor-timed"
dual-action
coronary vasodilator

Dilcoron[®]

for **ANGINA PECTORIS**

ORAL (*tablet swallowed whole*)
for dependable prophylaxis

SUBLINGUAL-ORAL
for immediate and sustained relief



Nitroglycerin

—0.4 mg. (1/150 grain)—acts quickly

Citrus "flavor-timer"

—signals patient when to swallow

Pentaerythritol tetranitrate

—15 mg. (1/4 grain)—prolongs action

For continuing prophylaxis patient swallows the entire Dilcoron tablet on an empty stomach.

Bottles of 100.

Average prophylactic dose:

1 tablet four times daily
($\frac{1}{2}$ hour before meals and at bedtime).

Therapeutic dose:

1 tablet held under the tongue until citrus flavor disappears, then swallowed.

*Rx
Dilcoron Tabs No. 100
Sig. 1 tab. before meals
and at bedtime.
If attack occurs, place
1 tablet under tongue,
swallow when
flavor disappears*

Winthrop **LABORATORIES**
NEW YORK 18, N. Y.

If one . . . or all . . . needs nutritional support . . .



they
deserve

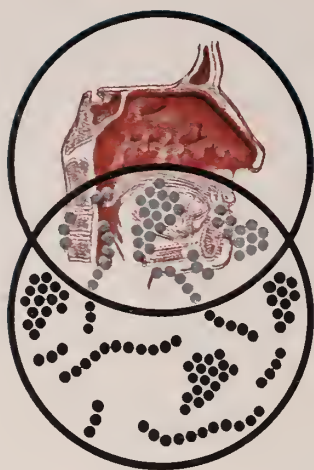
GEVRAL[®] capsules—14 VITAMINS AND 11 MINERALS

Vitamin-Mineral Supplement Lederle

For Complete Formula see PDR (Physicians' Desk Reference), page 689

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York





when upper
respiratory congestion

is complicated
by bacterial invaders

TRISULFAMINIC provides logical therapy

- for the patient ill with congestion and infection of the upper respiratory tract, as in purulent rhinitis, sinusitis, tonsillitis and otitis media, when caused by sulfa-susceptible bacteria;
- because secondary invasion by such bacteria so frequently follows the common cold.¹

the reasons for combining Triaminic with triple sulfas

Triaminic and triple sulfas are not only pharmacologically *compatible*, they are a therapeutically *logical* combination for upper respiratory infections: Triaminic for effective decongestant relief from rhinitis, rhinorrhea and sinusitis;² triple sulfas for well-established antibacterial action.

The advantages of Trisulfaminic in upper respiratory infections include: proved effectiveness; safety; economy; ease of administration; less likelihood of sensitivity reactions;³ compatibility with antibiotics and other antibacterial therapy. Provided also as Suspension for additional convenience.

Trisulfaminic®

TRIAMINIC WITH TRIPLE SULFAS

Available as TABLETS and SUSPENSION

Each easy-to-swallow Trisulfaminic Tablet or 5 ml. teaspoonful of Suspension provides:

Triaminic®	25 mg.
(phenylpropanolamine HCl 12.5 mg.	
pheniramine maleate	6.25 mg.
pyrilamine maleate	6.25 mg.)
Trisulfapyrimidines, U.S.P.	0.5 Gm.

Dosage:

Adults—2 to 4 tablets or tsp. initially, followed by 2 tablets or tsp. every 4 to 6 hours until the patient has been afebrile 3 days. *Children 8 to 12*—2 tablets or tsp. initially, followed by 1 tablet or tsp. every 6 hours. *Children under 8*—dosage according to weight.

The palatability, convenience and effectiveness of the Suspension make it especially suitable for children and for those older patients who prefer liquid medication.

References: 1. Cecil, R. L., et al.: J.A.M.A. 124:8 (Jan. 1) 1944. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Beckman, H.: Drugs, Their Nature, Action & Use, Saunders, Philadelphia, 1958, p. 527.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska



Of course, women like "Premarin"®

THERAPY for the menopause syndrome should relieve not only the psychic instability attendant the condition, but the vasomotor instability of estrogen decline as well. Though they would have a hard time explaining it in such medical terms, this is the reason women like "Premarin."

The patient isn't alone in her de-

votion to this natural estrogen. Doctors, husbands, and family all like what it does for the patient, the wife, and the homemaker.

When, because of the menopause, the psyche needs nursing—"Premarin" nurses. When hot flushes need suppressing, "Premarin" suppresses. In short, when you want to treat the

whole menopause, (and how else is it to be treated?), let your choice be "Premarin," a complete natural estrogen complex.

"Premarin," conjugated estrogens (equine), is available as tablets and liquid, and also in combination with meproamate or methyltestosterone.

Ayerst Laboratories • New York 16, N. Y. • Montreal, Canada





1 1/4 Grs. Ea.
FLAVORED

Living up to a family tradition

There are probably certain medications which are special favorites of yours, medications in which you have a particular confidence.

Physicians, through ever increasing recommendation, have long demonstrated their confidence in the efficacy, potency and purity of Bayer Aspirin, the world's first aspirin.

And the same manufacturing skill, the same 106 ingredient and product tests, the same exclusive processes which contribute to the superiority of Bayer Aspirin set the standards of excellence for Bayer Aspirin for Children.

You can depend on Bayer Aspirin for Children for it has been conscientiously formulated to be the best tasting aspirin ever made and to live up to the Bayer family tradition of providing the finest aspirin the world has ever known.

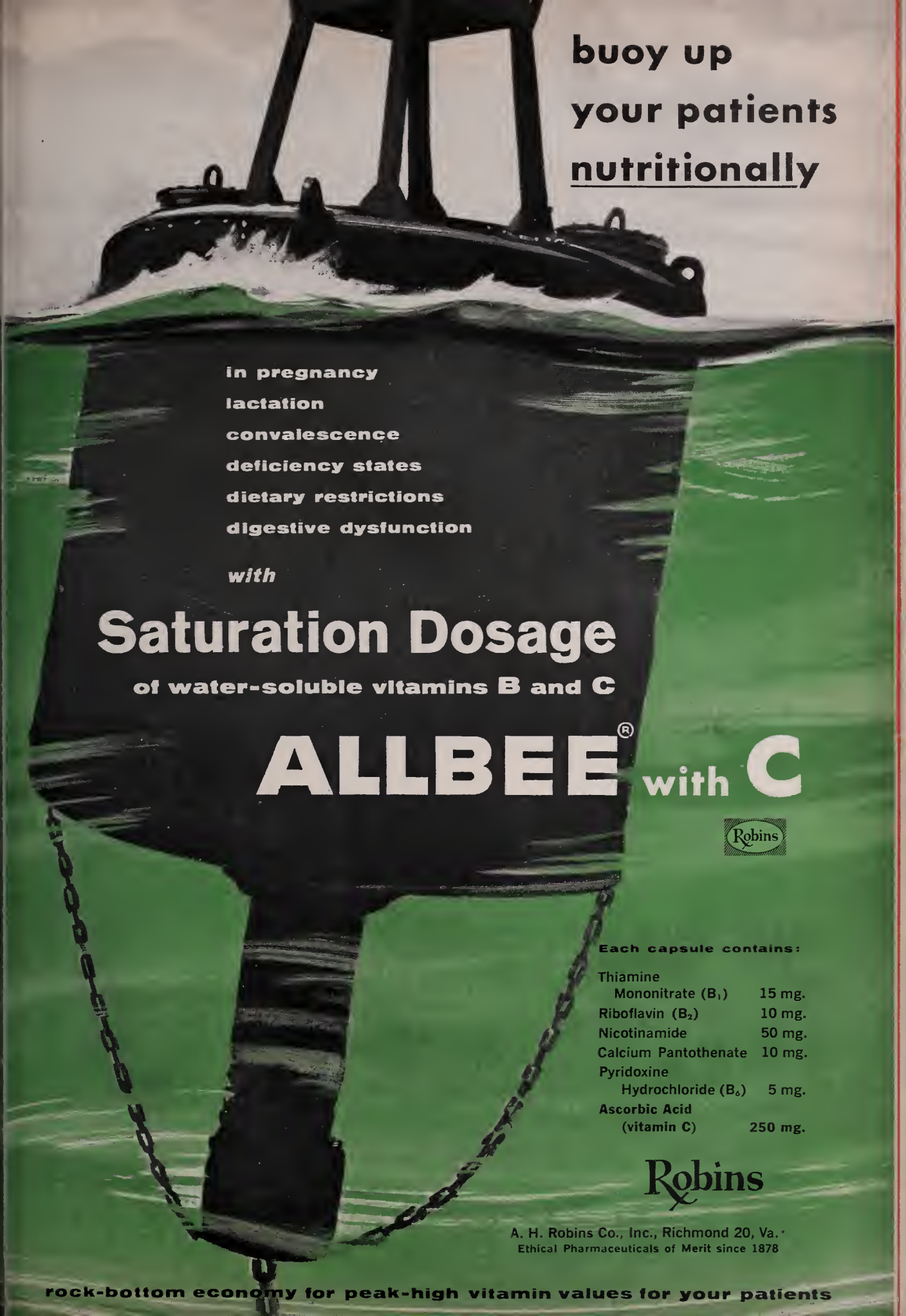
Bayer Aspirin for Children—1 1/4 grain flavored tablets—Supplied in bottles of 50.

● We welcome your requests for samples on Bayer Aspirin and Flavored Bayer Aspirin for Children.

New
Tamper-Proof
Cap



THE BAYER COMPANY, DIVISION OF STERLING DRUG INC., 1450 BROADWAY, NEW YORK 18, N. Y.



**buoy up
your patients
nutritionally**

**in pregnancy
lactation
convalescence
deficiency states
dietary restrictions
digestive dysfunction**

with

Saturation Dosage

of water-soluble vitamins B and C

ALLBEE[®] with C



Each capsule contains:

Thiamine	
Mononitrate (B ₁)	15 mg.
Riboflavin (B ₂)	10 mg.
Nicotinamide	50 mg.
Calcium Pantothenate	10 mg.
Pyridoxine	
Hydrochloride (B ₆)	5 mg.
Ascorbic Acid	
(vitamin C)	250 mg.

Robins

A. H. Robins Co., Inc., Richmond 20, Va.
Ethical Pharmaceuticals of Merit since 1878

rock-bottom economy for peak-high vitamin values for your patients

RESEARCH:

key to Kent's popularity

In 1958, Kent made the greatest gain in popularity ever recorded by any filter cigarette in any year—a sales increase of 20-billion cigarettes.

Behind this popularity is a story of months and years of research, perfecting the remarkable combination of filter action and flavor found in today's Kent cigarette. In developing Kent, Lorillard research scientists recognized that smokers wanted, on the one hand, a really satisfying taste; on the other, reduced tars and nicotine. In addition, smokers demanded a free and easy draw.

These, then, were the objectives. The first scientific breakthrough in the project was the development of the exclusive Micronite filter, patented by Lorillard. This filter was created because of newly-discovered principles in the field of filtration, which have

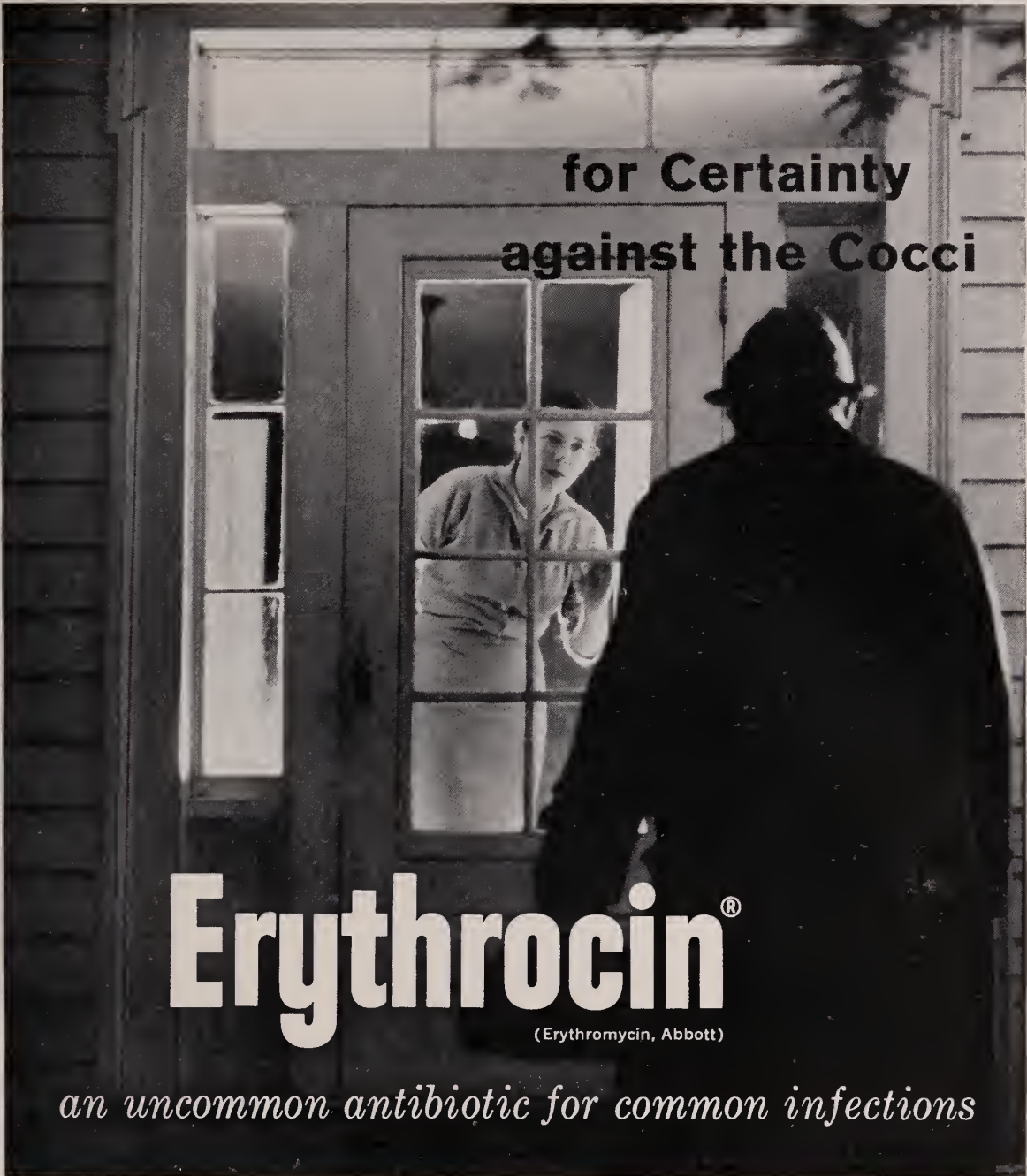
been previously described in these pages.

Though this filter satisfied everyone on its ability to reduce tars and nicotine to the lowest level among the largest selling brands, there was still work to be done in the areas of taste and draw. After additional months of research, a new tobacco blend was developed which delivered rich taste *after* the smoke had passed through the filter. Next in the series of laboratory triumphs was a method of improving the draw to compare with the most free-drawing of all filter brands.

The rest of the Kent story is a legend in the tobacco industry. Outside, independent research studies confirmed the fact that Kent had achieved its objectives. Smokers responded. In fact, during the past year, more smokers changed to Kent than to any other cigarette in America.



A Product of P. Lorillard Company—First with the finest cigarettes—through Lorillard Research!



**for Certainty
against the Cocci**

Erythrocin®
(Erythromycin, Abbott)

an uncommon antibiotic for common infections

Provides fast, high blood and tissue concentrations—plus an unparalleled safety record. Erythrocin is available in easy-to-swallow Filmtabs® (100 and 250 mg.); in tasty, citrus-flavored Oral Suspension (200 mg. per 5-cc. teaspoonful); and for intravenous and intramuscular use.



®FILMTABS—FILM-SEALED TABLETS, ABBOTT, U.S. PAT. NO. 2,881,085

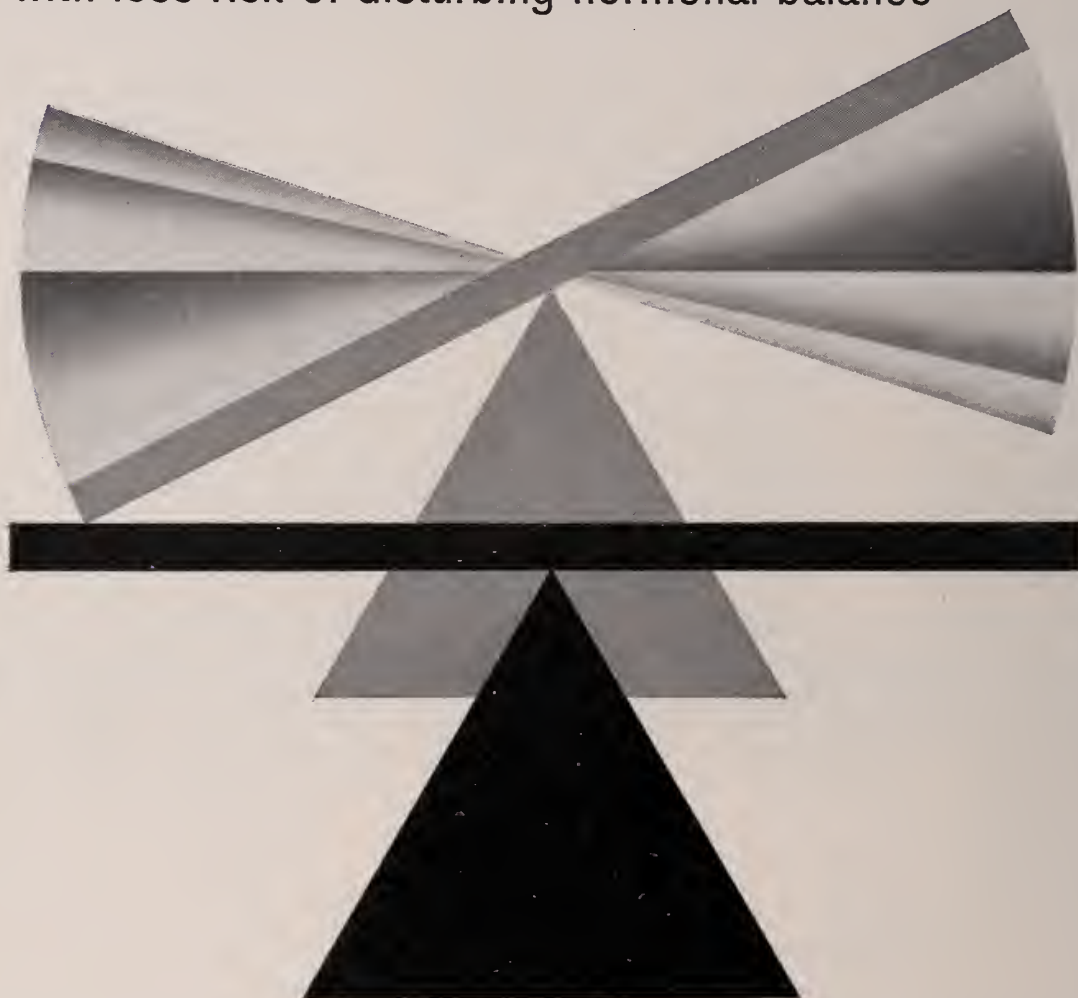
909132

Effective relief in rheumatic disorders

Sterazolidin[®] capsules
prednisone-phenylbutazone Geigy

Geigy

with less risk of disturbing hormonal balance



In the treatment of the rheumatic disorders new Sterazolidin provides a method of limiting the gravest danger inherent in steroid therapy... hypercortisonism arising from excessive dosage.

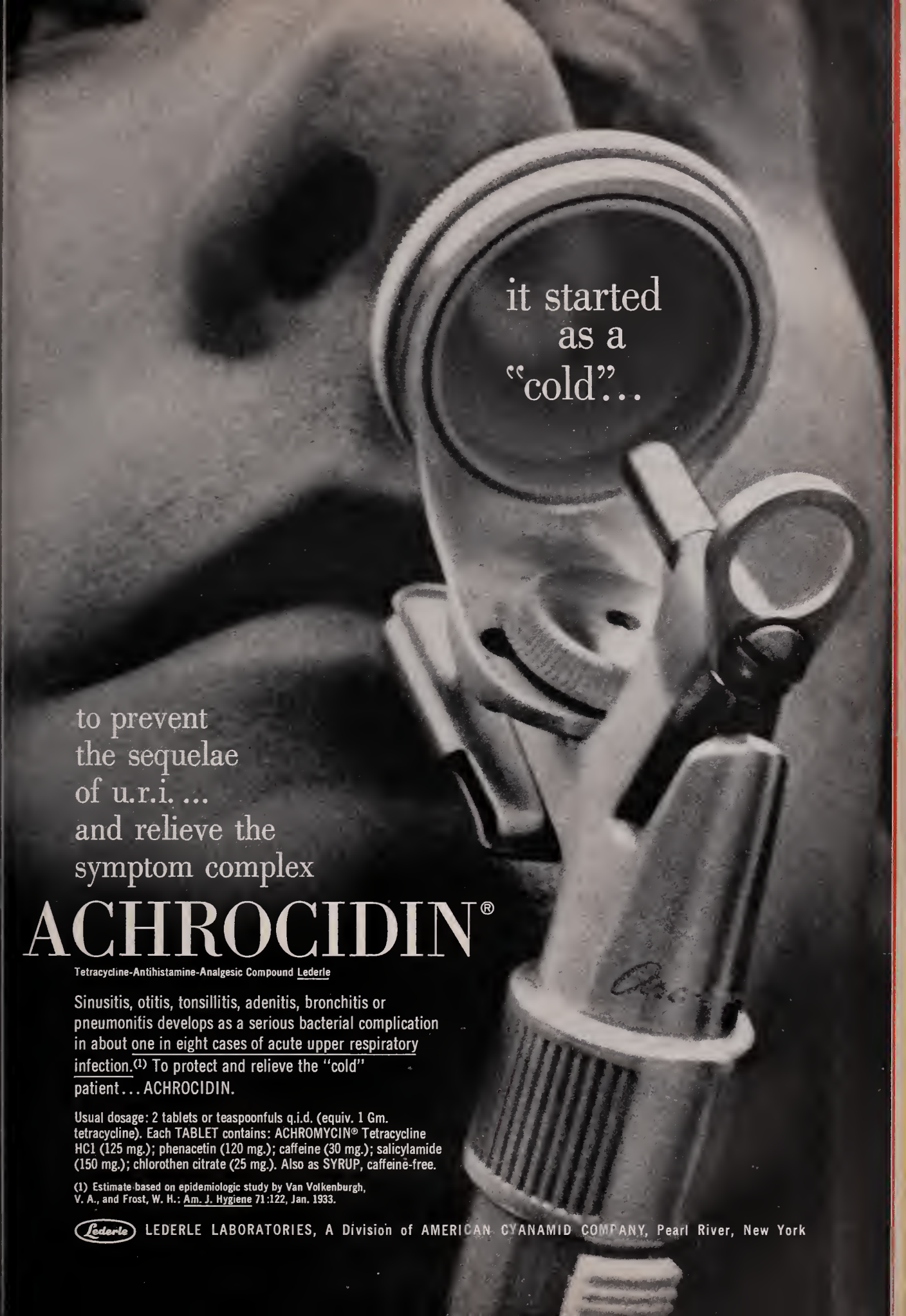
Repeatedly it has been shown that the addition of low dosage of Butazolidin sharply reduces hormone requirement.¹⁻⁴ Sterazolidin is a combination of prednisone (1.25 mg.) and Butazolidin (50 mg.) which provides, in the majority of cases, consistent relief at a stable uniform maintenance dosage significantly below the level at which serious hormonal imbalance is likely to occur.

Sterazolidin[®] (prednisone-phenylbutazone Geigy). Each capsule contains prednisone 1.25 mg.; phenylbutazone 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg. and homatropine methylbromide 1.25 mg.

1. Kuzell, W. C., and others.: Arch. Int. Med. 92:646, 1953. 2. Wolfson, W. Q.: J. Michigan M. Soc. 54:323, 1955. 3. Strandberg, B.: Brit. J. Phys. Med. 19:9, 1956. 4. Platt, W. D., Jr., and Steinberg, I. H.: New England J. Med. 256:823 (May 2) 1957.

Geigy, Ardsley, New York

03859



it started
as a
"cold"...

to prevent
the sequelae
of u.r.i. ...
and relieve the
symptom complex

ACHROCIDIN[®]

Tetracycline-Antihistamine-Analgesic Compound Lederle

Sinusitis, otitis, tonsillitis, adenitis, bronchitis or pneumonitis develops as a serious bacterial complication in about one in eight cases of acute upper respiratory infection.⁽¹⁾ To protect and relieve the "cold" patient... ACHROCIDIN.

Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm. tetracycline). Each TABLET contains: ACHROMYCIN[®] Tetracycline HCl (125 mg.); phenacetin (120 mg.); caffeine (30 mg.); salicylamide (150 mg.); chlorothen citrate (25 mg.). Also as SYRUP, caffeine-free.

(1) Estimate based on epidemiologic study by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122, Jan. 1933.



LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



What a great feeling to see *all* the pins go down . . .

“Good for you!”

A STRIKE! You did it—your side wins the game. Now, “Champ,” relax—reach for a rewarding glass of beer. More than a thirst-quencher, beer is the light, bright beverage just bubbling with life. A glass of beer adds so much fun to so many occasions. And it really picks you up, too!

Beer Belongs—to the fun of living!



United States Brewers Foundation
CHARTERED 1862



Beer's rich in wonderful, healthful things. Nature's own choice barley malt, hops, minerals, and the purest water. Good wholesome beer or ale perks you up—won't let you down.



running noses  
and open stuffed noses orally

Triaminic[®]

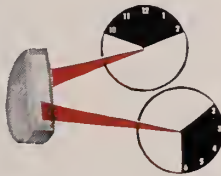
the leading oral nasal decongestant

- in nasal and paranasal congestion
- in sinusitis
- in postnasal drip
- in allergic reactions of the upper respiratory tract.

safer and more effective than topical medication^{1,2,3}

- systemic transport to all respiratory membranes
- provides longer-lasting relief
- presents no problem of rebound congestion
- avoids "nose drop addiction"

*Relief with Triaminic is prompt
and prolonged because of this
special timed-release action ...
beneficial effect starts in
minutes, lasts for hours*



Each TRIAMINIC Tablet provides:

Phenylpropanolamine HCl50 mg.
Pheniramine maleate25 mg.
Pyrilamine maleate25 mg.

One-half of this formula is in the outer layer, the other half is in the core.

Dosage: One tablet in the morning, mid-afternoon and at bedtime.

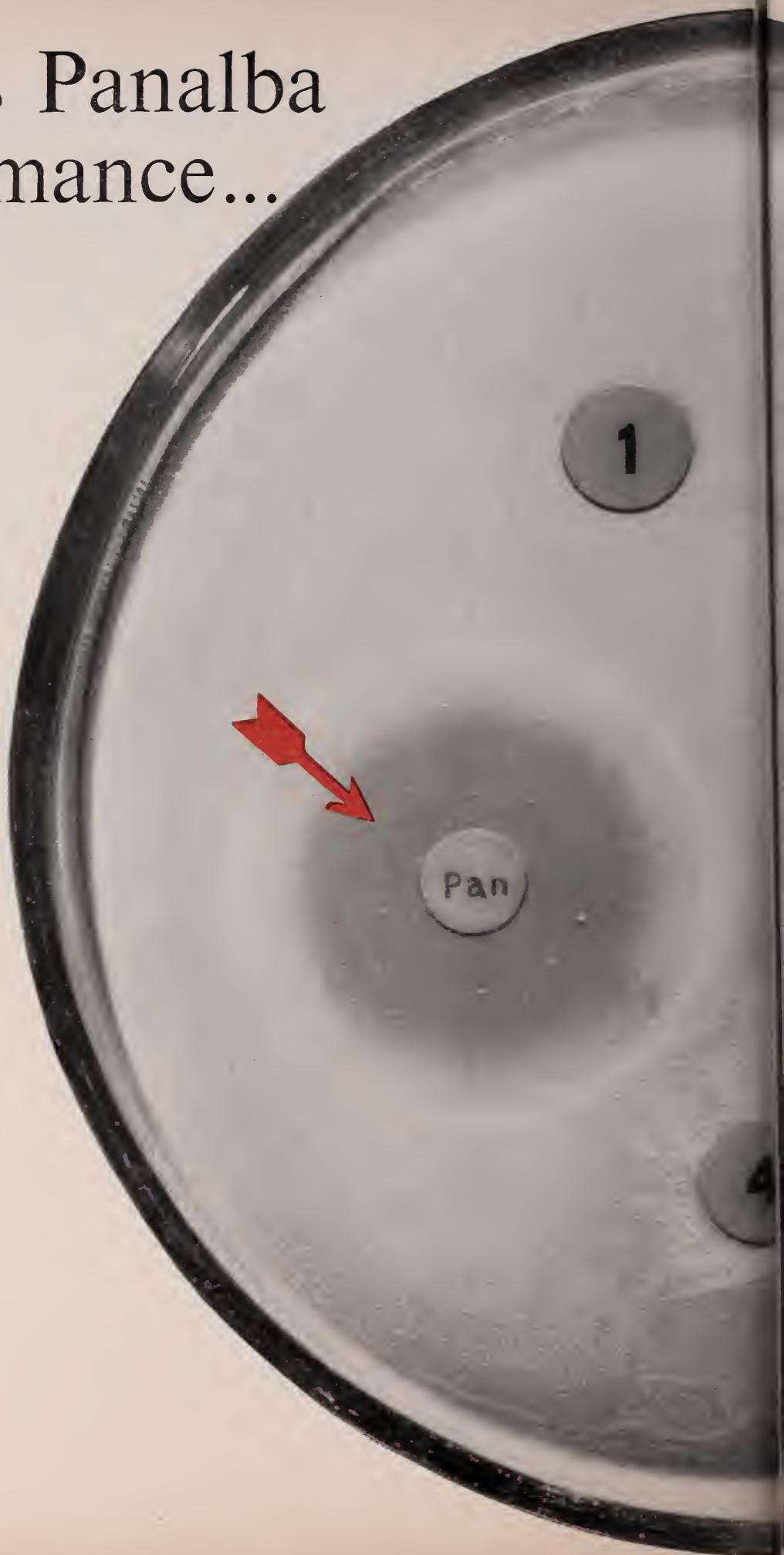
References: 1. Lhotka, F. M.: Illinois M. J. 112: 259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

TRIAMINIC JUVELETS: Each timed-release Juvelet is equivalent in formula and dosage to one-half of a TRIAMINIC tablet, for the adult or child who requires only half strength dosage.

TRIAMINIC SYRUP is recommended for adults and children who prefer liquid medication. Each 5 ml. tsp. is equivalent to $\frac{1}{4}$ of a Triaminic Tablet. *Adults:* 2 tsp. 3-4 times a day; *children 6-12:* 1 tsp. 3-4 times a day; *children under 6:* in proportion.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska

This is Panalba
performance...





in pneumonia

... into a mixed culture of the three organisms commonly involved in pneumonia ... *K. pneumoniae*, *Diplococcus pneumoniae*, and *Staphylococcus aureus* (in this case a resistant strain) ... we introduce the five most frequently used antibiotics.

Twenty-four hours later (in this greatly enlarged photograph), note that only *one* of the five leading antibiotics has stopped *all* the organisms, including the resistant staph! This is Panalba.

In your next pneumonia patient ... in *all* your patients with potentially-serious infections ... provide this extra protection with your prescription :

Dosage—1 or 2 capsules
3 or 4 times a day.
Supplied—Capsules containing
Panmycin phosphate equivalent
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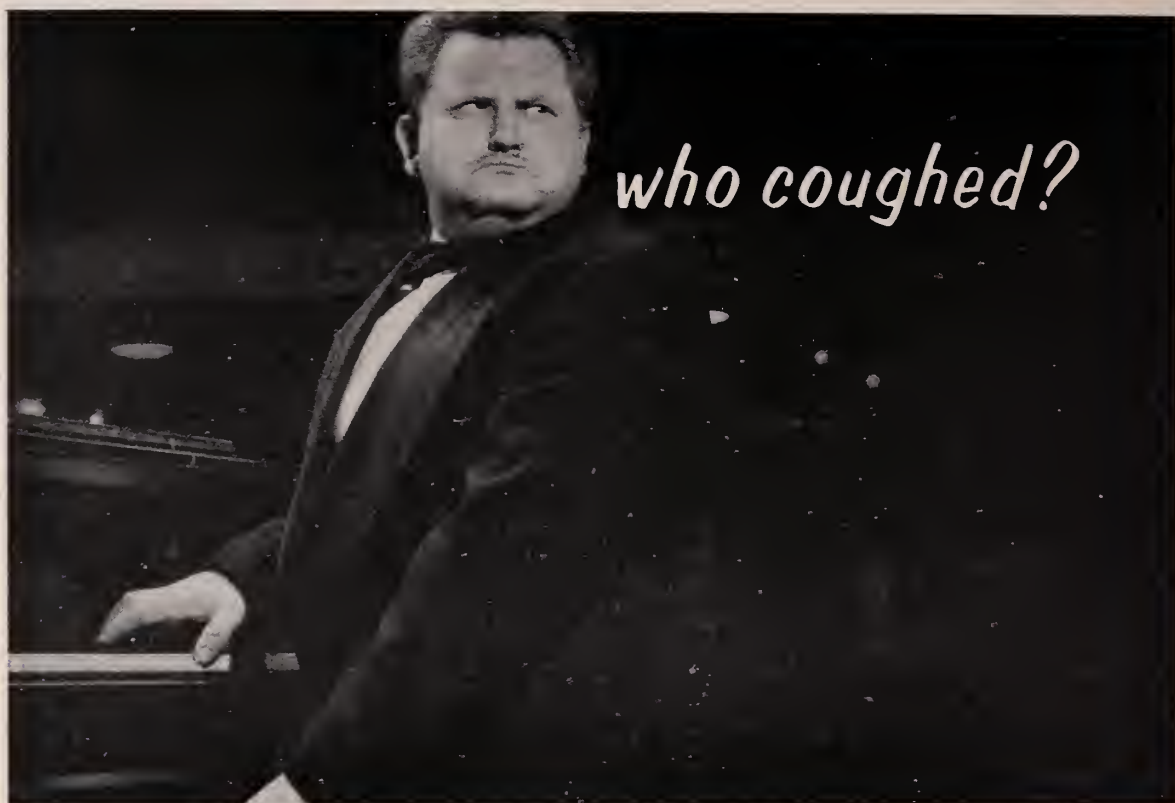
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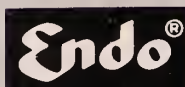
cough sedative / antihistamine / expectorant

- relieves cough and associated symptoms in 15-20 minutes • effective for 6 hours or longer
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Each teaspoonful (5 cc.) of HYCOMINE contains:
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Dihydrocodeinone Bitartrate (Warning: May be habit-forming)	5 mg.	} 6.5 mg.
Homatropine Methylbromide	1.5 mg.	
Pyrilamine Maleate		12.5 mg.
Ammonium Chloride		60 mg.
Sodium Citrate		85 mg.

Supplied: As a pleasant-to-take syrup. May be habit-forming. Federal law permits oral prescription.



Literature
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Why should I use **KANTREX®** Injection* when there are so many other antibiotics available?

Because KANTREX Injection is bactericidal to a wide variety of organisms, including many that are highly resistant to the other antibiotics^{3,4,10,12,13,17,18,20,21,23,24,25,27,30,33,35,37}

—organisms such as *Staph. aureus*, *Staph. albus*, *A. aerogenes*, *E. coli*, *H. pertussis*, *K. pneumoniae*, *Neisseria* sp., *Shigella*, *Salmonella* and many strains of *B. proteus*.

Q But if I use KANTREX Injection, won't that help make bacteria resistant to it also?

Next page, please

Q But if I use KANTREX Injection, won't that help make bacteria resistant to it also?

A A very good question, but it is reassuring to note that in almost two years of clinical use of KANTREX for the treatment of infections for which it is recommended, the emergence of KANTREX-resistant bacterial populations has not been a problem.

Q My impression is that KANTREX is just another neomycin. Isn't that so?

A Indeed not. The only thing KANTREX and neomycin have in common is a similar antimicrobial spectrum. Otherwise, they're very different: they have different chemical structures; the toxicity of KANTREX is "much less than that of neomycin"¹⁴; and clinically, KANTREX Injection is practical for systemic administration routinely, while neomycin is not.

Q You mean that KANTREX Injection doesn't have the nephrotoxicity of neomycin?

A Precisely. It's true that when KANTREX Injection is used, urinary casts — even slight albuminuria or microscopic hematuria — may appear, especially in poorly hydrated patients, but this does not reflect any progressive damage to the kidneys. These signs promptly disappear on adequate hydration or termination of therapy.

Q Then why do you recommend reduced dosage in patients with renal impairment?

A Because renal impairment causes an excessive accumulation of KANTREX in the blood and tissues, when usual doses are administered. Since KANTREX Injection is excreted entirely by the kidneys, renal impairment leads

to unnecessarily high and prolonged blood levels; and such excessive concentrations increase the risk of ototoxicity.

Q Is that why we see reports of patients developing hearing loss during KANTREX Injection therapy?

A Yes. A study of the few reported cases in which patients have suffered impaired hearing will show that in every instance they had pre-existing or concurrent renal impairment, yet received usual or excessive doses of KANTREX Injection. Dosage recommendations for KANTREX Injection emphasize that in patients with renal dysfunction, adequate serum levels can be achieved with a fraction of the dose suggested for patients with normal kidney function — with minimal risk of ototoxicity.

Q Since urinary tract infections are often accompanied by renal impairment, does that mean I shouldn't use KANTREX Injection in such conditions?

A Not at all. With proper precautions, KANTREX Injection is an excellent drug for the treatment of urinary tract infections, especially those due to *Proteus*, *A. aerogenes* and *E. coli*, even when renal impairment is present.

Q What are the "proper precautions" in a patient with impaired renal function?

A The package literature covers them in detail. First, the daily dose should be reduced in such a patient. Then, if he is going to receive KANTREX Injection for 7 days or more, a pre-treatment audiogram should be done, and it should be repeated at appropriate intervals during therapy. If tinnitus or subjective hearing loss develops, or if followup audiograms show significant loss of high frequency response, KANTREX therapy should be discontinued. However, therapy for 7 days or more

is seldom required because the clinical response to KANTREX Injection is so rapid.

Q *Why do you put so much emphasis on KANTREX's "rapid action"? Every antibiotic I've heard about is supposed to be "rapid acting."*

A There is such an abundance of clinical evidence about "rapid acting" that it takes KANTREX Injection out of the "supposed-to" class.^{1,2,3,7,8,9,11,15,16,19,21,22,26,29,32,33} Remember, the effectiveness of KANTREX Injection therapy can usually be appraised in 24 to 36 hours. That's definite evidence of rapid action. In fact, one group of investigators reported that "the rapidity with which bacteria are killed by this agent is reflected by the promptness of the clinical response."²⁹

Q *Does KANTREX Injection cause blood dyscrasias?*

A In extensive clinical and toxicity studies by numerous investigators, as well as almost two years of general use, not a single instance of such toxicity has been reported.

Q *Can I administer KANTREX Injection in any other way than by the intramuscular route?*

A Yes. While it's usually given intramuscularly, other routes are practicable: intravenous, intraperitoneal, by aerosol, and as an irrigating solution. Complete instructions are included in the package insert.

Q *So you think I ought to use KANTREX Injection as my first choice antibiotic in staph and gram-negative infections?*

A Yes — because all evidence to date indicates that it is bactericidal against a wide range of organisms...rapid acting...does not encourage development of bacterial resistance...is well tolerated in specified dosage...and has not caused any blood dyscrasias.

KANTREX CAPSULES

*for local gastrointestinal therapy...
not for systemic infections*

Q *Why can't I use KANTREX Capsules for systemic medication?*

A Because there is only negligible absorption of KANTREX from the gastrointestinal tract.^{3,5,6,8,28,34} Thus, capsules cannot provide effective blood levels.

Q *Then what are KANTREX Capsules used for?*

A Preoperative bowel sterilization, and local treatment of intestinal infections due to kanamycin-sensitive organisms.

Q *I've been using neomycin for preoperative bowel sterilization. Why should I switch to KANTREX Capsules?*

A Because KANTREX has been rated as "superior to neomycin" for this purpose.⁶ It provides rapid and satisfactory control of coliforms, clostridia, staphylococci and streptococci; yeasts do not proliferate; stool concentrations of the drug are exceptionally high; and nausea, vomiting or intestinal irritation have not been observed.^{5,6}

Q *What advantages do KANTREX Capsules offer me in the treatment of intestinal infections?*

A A high degree of effectiveness against most of the pathogens responsible for such infections: *Salmonella*, *Shigella*, *Staph. aureus*, *E. coli* and *Endamoeba histolytica*. Moreover, their use has been "remarkably free of any side effects."³¹

KANTREX INJECTION

KANAMYCIN SULFATE INJECTION

INDICATIONS

Infections due to kanamycin-sensitive organisms, particularly staph or "gram-negatives": genito-urinary infections; skin, soft tissue and post-surgical infections; respiratory tract infections; septicemia and bacteremia; osteomyelitis and periostitis.

DOSAGE: INTRAMUSCULAR ROUTE

Recommended daily dose is 15 mg. per kg. of body weight, in 2 to 4 divided doses.

For intramuscular administration, KANTREX Injection should be injected deeply into the upper outer quadrant of the gluteal muscle.

TOXICITY

When the recommended precautions are followed, the incidence of toxic reactions to KANTREX is low. In well hydrated patients under 45 years of age with normal kidney function, receiving a total dose of 20 Gm. or less of KANTREX, the risk of ototoxic reactions is negligible.

In patients with renal disease and impaired renal function, the daily dose of KANTREX should be reduced in proportion to the degree of impairment to avoid accumulation of the drug in serum and tissues, thus minimizing the possibility of ototoxicity. In such patients, if therapy is expected to last 7 days or more, audiograms should be obtained prior to and during treatment. KANTREX therapy should be stopped if tinnitus or subjective hearing loss develops, or if audiograms show significant loss of high frequency response.

OTHER ROUTES OF ADMINISTRATION

KANTREX should be used by intravenous infusion only when the intramuscular route is impracticable. KANTREX can also be employed for intraperitoneal use, aerosol treatment, and as an irrigating solution. See package insert for directions.

PRECAUTIONS

Use of antihiotics may occasionally result in overgrowth of non-sensitive organisms. If superinfection appears during therapy, appropriate measures should be taken.

SUPPLY

Available in rubber-capped vials as a ready-to-use sterile aqueous solution in two concentrations (stable at room temperature indefinitely):

KANTREX Injection, 0.5 Gm. kanamycin (as sulfate) in 2 ml. volume.

KANTREX Injection, 1.0 Gm. kanamycin (as sulfate) in 3 ml. volume.

CAPSULES

(for local gastrointestinal therapy; not for systemic medication)

INDICATIONS AND DOSAGE

For preoperative bowel sterilization: 1.0 Gm. (2 capsules) every hour for 4 hours, followed by 1.0 Gm. (2 capsules) every 6 hours for 36 to 72 hours.

For intestinal infections: Adults: 3.0 to 4.0 Gm. (6 to 8 capsules) per day in divided doses for 5 to 7 days. Infants and children: 50 mg. per kg. per day in 4 to 6 divided doses for 5 to 7 days.

PRECAUTION

Preoperative use of KANTREX Capsules is contraindicated in the presence of intestinal obstruction. Although only negligible amounts of KANTREX are absorbed through intact intestinal mucosa, the possibility of increased absorption from ulcerated or denuded areas should be considered.

SUPPLY

KANTREX Capsules, 0.5 Gm. kanamycin (as sulfate), bottles of 20 and 100.

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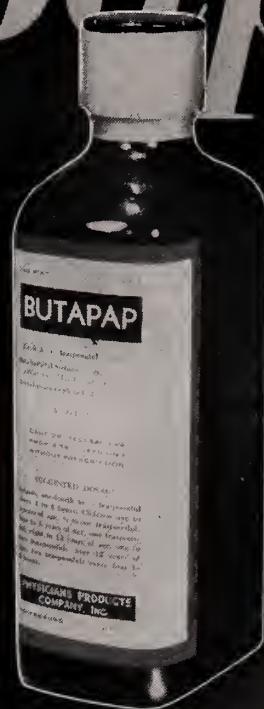
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In BUTAPAP the potent analgesic effect of acetyl-p-aminophenol is potentiated by the inclusion of butabarbital sodium. The resultant effectiveness against pain and discomfort, and the unusual antipyretic action of acetyl-p-aminophenol, are reinforced by the sedative action of the butabarbital sodium, providing a preparation with wide clinical usefulness.



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Butabarbital Sodium ($\frac{1}{2}$ gr.) 15.0 mg.
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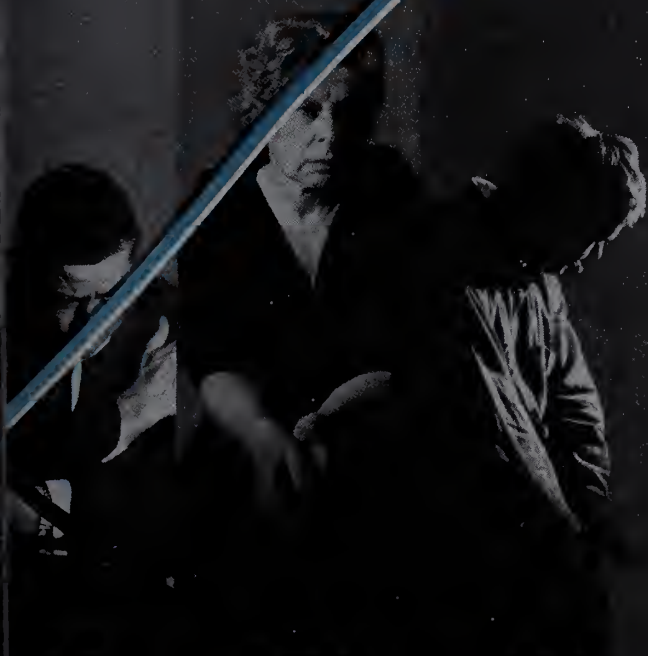
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i, T., and Levy, H.: Clinical report, cited with permission. 2. Wetzler, R. A., and Phillips, R. M.: Clinical cited with permission. 3. Prigot, A.: Clinical report, cited with permission. 4. Gosline, E., *et al.*: *Am. J. Psychiat.* 9 (April) 1959. 5. Turvey, S. E. C.: Clinical report, cited with permission.

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Thiamine HCl (B ₁)	10 mg.
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Guest Editorial

Insect Sting and Bite Reactions

Their Seriousness and Management

THE RECOGNITION and the treatment of severe constitutional or anaphylactoid types of reactions following stings and bites of insects are keenly appreciated after one sees such a patient. The recognition of these severe reactions is not of recent date, as approximately 150 years ago three classes of clear-cut bee sensitivity were reported. However, in the past few years there has been an increased recognition of these patients, as evidenced by news releases and case reports in both the lay press and medical publications. Only in recent years has the mechanism of this reaction and the importance of prompt treatment been appreciated. As a result of this, we have been able to reduce the number of patients experiencing these constitutional reactions and also the mortality rate.

A number of interesting observations are made regarding the stinging insects. The honeybee has a barbed stinger, and when she stings, her stinger and venom sac are retained in the sting site. In contrast, the hornets, yellow jackets, bumble bees and wasps do not leave their stinger or venom sacs, as they have a non-barbed stinger. The stinger should be immediately removed after a bee stings, since it takes approximately two or three minutes for the bee to inject the whole amount of venom through the fine stinger, as the smooth muscle wall of the venom sac continues to contract and force in the venom. The quicker the venom sac is removed, the less venom will be injected.

To date there are well over thirty insects that have been reported in literature as a direct cause of allergic disease. The character of reaction and severity may vary in the different patients, as follows:

Urticaria	Loss of Consciousness
Angioneurotic Edema	Shock
Generalized Aching and Swelling of the Joints	Dyspnea
Asthma	Abdominal Cramps
Generalized Itching	Vascular Collapse
Edema of the Larynx	Schönlein-Henock Syndrome
Headaches	Tightness of the Chest
General Malaise	A Sensation of Impending Death

It is desirable to classify the clinical severity of sting and bite reactions as follows:

Grade I —A slight general reaction is characterized by a generalized urticaria, itching, malaise and anxiety.

Grade II—A general reaction, in addition to the symptoms in Grade I, includes two or more of the following: generalized edema, sneezing, constriction in the chest, dizziness, abdominal pains, nausea or vomiting.

Grade III—In addition to symptoms in Grades I and II, two or more of the following: dyspnea, dysphagia, marked weakness, confusion, a feeling of impending disaster.

Grade IV—Two or more of the following, in addition to reactions of Grades I, II, and III: cyanosis, fallen blood pressure, collapse, incontinence, unconsciousness.

During the past two years some fifty-three patients have come under our observation, exhibiting allergic reactions of varying clinical severity, which have fallen into one of the above groups. As of this date, we have attempted to desensitize these patients. Approximately two-thirds of the patients who have received immunization treatment with extracts or antigens prepared from bees, yellow jackets, wasps, hornets, mosquitoes, ants and May fly, have subsequently been stung or bitten, and we have not observed any severe constitutional reactions in this group of cases. In a number of instances these patients have had multiple stings or bites.

We cannot over-emphasize the importance of recognizing these patients and instituting prompt and effective treatment, as well as explaining to the patient or his family the potential or sometimes fatal reaction that may follow subsequent stings or bites. Too often the doctor or the patient may minimize the reaction, especially if the physician has not seen the patient during such a reaction.

It should further be appreciated that the proper technique of testing a patient is to be cautiously followed, as these tests are not without danger, and one may precipitate a constitutional reaction if adequate precautions are not taken. These patients should be prepared to remain under the observation of the doctor for at least an hour following the test procedures. The tests include not only scratch tests, but also intracutaneous tests, with serial dilutions of the varied extracts employed in concentrations of from 1 to 1/1,000,000,000, and proceeding with the more concentrated dilutions in multiples of 10, until the 1 to 10 and concentrated extracts are employed. The location of these tests should be on either the patient's arm or leg, in order that the tourniquet may be applied proximal to the test site should a reaction occur.

The schedule and proper dilution of antigens for hyposensitization vary according to the severity of the patient's reaction, the degree of skin tests, and the experience that one antigen at times may be more potent than others. The interval between initial injections is daily, and subsequently lengthened to several times a week, and finally to weekly or intervals of every two weeks, when a maintenance dose is reached.

It is the physician's responsibility to instruct the patient in the emergency treatment of insect stings and bites. This treatment may be divided into two categories:

Local Treatment: This includes application of either sodium bicarbonate or household ammonia, or ice cold compresses.

Systemic Treatment: This consists of the application of a tourniquet proximal to the insect sting or bite. If multiple stings or bites occur, more than one tourniquet should be used. The patient should be provided with a sympathicomimetic drug, such as Nephrenalin or Isuprel tablets, with instructions to place one under the tongue and hold it there for five minutes before swallowing, in order that he may receive a rapid adrenalin-type of response. The patient and his family or companion should be advised as to the type of treatment employed in the event of shock, and a physician should be summoned and hospitalization should be considered. Among other drugs that may be considered individually or collectively are the following: Epinephrine Hydrochloride 1/1000 intra-muscular or intravenous routes, Dimetane Injectable or some comparable parenteral antihistamine, intravenous or intra-muscular steroid, depending upon the severity of symptoms.

Usually oral antihistamines and sympathicomimetic drugs are too slow in their action, as the critical period is immediately at hand after the sting or bite, and for the next thirty minutes. Usually those patients who survive as long as thirty minutes do not have a fatal outcome.

Not only should emergency instructions be outlined, but in addition an emergency kit should always be kept available for those patients who are subject to these severe reactions. The patient, his family, and his local physician should be acquainted with the fact that the patient is allergic to insect stings and bites, and they should also be familiar with the emergency instructions and the use of an emergency kit. Hypodermic administration of drugs may prove to be life-saving, and the doctor may wish to give such instruction, depending upon the capability of the patient or his family.

J. WARRICK THOMAS, M.D.

*2031 Monument Avenue
Richmond, Virginia*

EDITOR'S NOTE: Dr. Thomas is Associate Professor of Medicine, Medical College of Virginia, and Director of the Thomas Clinic, Richmond.

Socio-Economic Problems

WALTER P. ADAMS, M.D.
Norfolk, Virginia

IT IS A GREAT PRIVILEGE to greet you at this 112th Annual Meeting of The Medical Society of Virginia. Our program is impressive and profitable, our annual renewal of friendships is always enjoyable, but our problems in the pursuit of our profession are increasing by leaps and bounds. Since you are attending the programs each day, and you are happy in old and in new friendships here, it is on socio-economic problems that I will address you.

Your Society has had a busy year as you can see from many of its Committee Reports. Fortunately, some work of the Society has been smooth and solutions for problems quickly found. In other activities your Committees have repeatedly traveled and met, in order to crystallize advice for the membership. Some problems have been insoluble.

The Annual Reports deserve more than a casual perusal. They are the guiding hands for each and every Virginia physician. Many do not realize the amount of time, thought, and energy expended by your members in developing various courses of action for the Society. I am sure each member of The Medical Society of Virginia is grateful to the Committees for their help with these problems. My plea is for more interest and more aid each year, from more and more members, and particularly from the younger ones. The problems are yours. No physician can practice without facing them, so each of us might as well lend a hand.

It is said that change is the only normal characteristic of free enterprise. The practice of medicine as we know it in these United States is still a free enterprise. It has changed astonishingly towards mechanization and third-parties in my thirty-five plus years of practice, and it will continue to change whether free enterprise continues or whether government socialized medicine overtakes us. We must not depreciate change but rather appreciate it. For instance, we enjoy and utilize the airplane and have forgotten the horse and buggy. But, just as the airplane must be guided, we should be guiding the changes in medicine. If physicians do not guide these inevitable changes in the practice of

medicine, then others will—others are even doing so now.

A good physician is proud and secure in his medical knowledge and service, knowing that American medicine is the best in the world. And the American Public is justly proud of American medicine—particularly when sickness comes. But is the American Public our friend? Have they faith and understanding in us? Do they raise a finger to help us? Not with the medical profession on the defensive as it is. They think us different, and apart from business and industry, and many of the public think we should be on a government salary with free medical care for all.

It has been soberly predicted by economic experts that by the year 2017 the employment of all individuals will be through the government. It is a slow embrace. To paraphrase Pope's Essay on Man—Socialized Medicine is a monster of such frightful mien, as to be hated needs but to be seen, yet seen too oft, familiar with his face, we first endure, then pity, then embrace.

Since there will definitely be transitions in medical practice, my second plea is for them to be guided by those intimately involved, namely ourselves and our interested patient, or our direct agents. Others who seek unwarranted changes in the status of physicians for their own profit or for political gain must be thwarted. In order to emphasize the necessity of medical thinking and guidance during these economic changes, a short report on several of the more important subjects is in order. These paragraphs may not be satisfying to you at all, but should be of interest, and may be stimulating toward individual thought.

BLUE CROSS-BLUE SHIELD

We physicians must attempt to guide health and hospital insurance in the same way we have done with medical education and with improving the standards of practice. Health insurance is the present key to the economic fate of the medical profession. It can succeed only to the degree that we support it and participate. Although started for low-income groups, both Blue Cross and Blue Shield have undergone changing patterns. But they remain the

Presidential Address at the Annual Meeting of The Medical Society of Virginia, Roanoke, October 4-7, 1959.

physicians' agencies for delivering prepaid medical and hospital care controlled by physicians, and are voluntary. Their future will depend on public confidence, plus what the physician puts into them—not on the fees he and the hospitals get out of them. Without positive leadership our present voluntary hospital system faces the prospect of becoming a government system.

Congress has just enthusiastically passed the Federal employees health insurance plan and this will become law next July first. It is a payroll deductible plan for five million Government workers, with our Government paying half of a low cost comprehensive health insurance. This is not a foot, but only a toe in the door.

And some physicians go along with Federal encroachment, one reason being the lack of financial responsibility of our public. In 1957, a fourth of all Americans had no cash savings, and more than half had less than \$500.00. That must be the reason the new physician president of a national Negro medical association has for declaring that "Voluntary health insurance is no answer to the medical problems of our Nation's seventeen million Negroes", and goes on to state that he favors compulsory health insurance plans such as that proposed by the Forand Bill. This physician also stated in his inaugural address that the time has come for some government agency such as the Public Health Service to care for our sick. To me this would not seem slow embrace, but a headlong rush into government medicine.

Just now there are feelers toward consolidating the Nation's eighty Blue Cross and seventy Blue Shield plans under a single organization by Federal charter. It is argued that this would hold off a government health insurance system. It would include a liberal expansion of hospital services for all income groups, with physician's fees set by relative value scales according to states, dentistry and home-care programs, and provisions for indigents through contractual arrangements with local communities. In Virginia we are fortunate in having Dr. Richard Ackart as the Director of our non-profit health insurance groups. By aiding his organization each member of this Society can be more assured of continuing the practice of medicine as we know it.

THE SENIOR-CITIZEN PROBLEM

This may well be our greatest immediate challenge for positive action. You must already know that definite local community plans for better care of the aged must be available and working by the 1961

President's Conference. Otherwise Congress will quickly be asked to add old-age Federal handouts to the money already rolling out of Washington for roads, schools, hospitals, and housing. Senator Pat McNamara's Sub-committee is now visiting representative cities in an attempt to get an overall picture of local health and welfare progress and of community responsibility for older people. No Virginia city will be visited. The political prize is the votes of the aged and those soon to be aged. The result of such type of legislation would be regimented physicians who would be told how to prescribe, all by Congressional edict. Our immediate past President, Dr. Harry Bates, was truly inspired in writing the Annual Report for his Committee on the Aging and I recommend it highly to each member for reading.

Stimulation of our local citizen groups, as well as Health and Welfare Departments, for organized action toward the better care of the aged is our next step. The goal is optimum health for each oldster. There is no one disease common to the aged. They are alike in only one way—age. Many are sick but more only need protection. Some of these are wrongly placed in mental institutions. But there will never be a legislative, nor a medical panacea for loneliness, rejection, or lack of useful things to do. Senior-Citizen centers have been started in many cities. Certain oldsters are made responsible for activities and others join in to develop new skills and duties. They can retain their independence and feel useful. The sick ones have always been cared for locally, but there must be improvement. The older generation is not neglected or badly cared for at present. It is the future which is so overpowering.

The physician has been involved because health protection for all is now assumed to be a public responsibility as much as police and fire protection. Physicians have accepted this challenge and newspapers have made the matter a major item of the year. Accordingly, Blue Shield contracts allowing only 66% of customary fees have been agreed upon in many areas, thus placing the personal profit of physicians' services second to the need for their services. Hospitals have not yielded to such reduction of charges because of being non-profit. Department stores, utilities, and filling stations have not yet been asked to remit approximately 33% of their charges because the customer is over 65. And I doubt if they will be asked.

So far we stand out in front in giving and in service, but we cannot do it all. Physicians must plan and stimulate the aid of local civic, church, and

other groups toward forming foundations and centers for the oldster. The Senior-Citizen should not become a pawn of the politicians with resulting tax money hand-outs and regimented medical care. The public has to be told that the care of the aged goes far beyond actual clinical care in hospitals and physicians' offices.

THIRD-PARTY MEDICINE

As medical costs have risen third-party plans have come into being. Today a large part of any practitioners income is paid by third-parties, so none of us can disdain participation or interest in them. These include in varying degrees industrial insurance, both voluntary and compulsory health insurance, the labor health plans, V.A., Medicare, Government rehabilitation projects, and many others, even down to mandatory typhoid inoculations for migrant farm labor. None of these alone comprise socialized government medicine. But there is a danger in any of these third-party plans which can eventually dictate medical policy and medical financing. When such dictation is complete and from the Government, we then have arrived at socialized medicine, with its loss of physician responsibility and of quality.

The public must be told of the harm possible from many existing organizations, some governmental, and from the too many unqualified people who wish to interfere with the physician-patient relationship for their own financial gain. The public must be shown the necessity of a solid front against these forces. Medical organizations and individuals will have to do this showing. Our voting public must be told that runaway costs and the power of the purse have resulted in a poor grade of medicine in many other countries. Congress must be shown that the public health is at stake. Furthermore, physicians cannot carry this torch alone.

To combat gradual inroads by these third-party plans, it has been recommended that any physicians accepting employment by a third-party plan should have a contract guaranteeing to him his own decisions in patient care, and guaranteeing the ethics of the profession. For any proposed further inroads toward government medicine it is up to the public to vote as they choose, but it should be an informed public. In informing the public on third-party medicine emphasis must be on the voluntary plan as against the government plan. The government plans which are mandatory by age or physical condition are but stepping stones to government medicine.

Some State Societies have adopted a Standard Relative Value Scale to assist members in setting

fees. The most recent is our neighbor the District of Columbia. Such information gives a basis for the worth of the service, but departs from the custom of charging according to the patient's ability to pay. All insurance and prepaid medical plans have encouraged the adoption of a relative value scale, and its usefulness to them is apparent. Major medical insurance of \$10,000.00 for one illness with say \$500.00 deductible, has proven a splendid supplement to Blue Cross-Blue Shield plans and is relatively cheap. This sets no fee schedule of its own but must rely on the use of a relative value scale. With no stability of fees there can be no stability of premiums for the patient, and the companies will cease to offer it.

In addition, the patient finds a relationship between different medical services by comparison in units. Thus distinction can be made between the value of services for a normal delivery or a Caesarean Section, or between an office visit and a home visit, and one schedule has even listed a "twenty-minute office visit necessitating professional care over and above the routine office visit." The use of such a scale is an important facet in the steady but constant change of medicine toward mechanization.

Some Virginia specialty groups have already anticipated adoption of such a scale. I predict some component societies will quickly accept such a plan, and that others will firmly avoid the issue. The AMA is presently conducting regional conferences on this subject. Your Medical Service Committee will appraise relative value scale usage during the coming year of the Society.

Other problems not so important will have to be mentioned in sentences only and not by paragraphs.

The AMEF should be supported individually or collectively or both, but support it we must. It is the first organization through which a profession has demonstrated a realization of responsibility for the financial welfare of its schools. Be sure you have helped this year.

In Virginia the liaison between the legal and the medical professions has been a happy one. An excellent "Standard of Principles" has been adopted at State level and by many local Medical and Bar Associations. We are fortunate in having a low State malpractice loss rate, and this is reflected in a recent 12% reduction to all group malpractice policyholders of our Society.

The AMA now has new Disciplinary Committees working at the National level. This is mentioned only to remind that if local administration of these

problems were adequate, then National level study would be superfluous.

In connection with the many lay Voluntary Health Agencies to fight specific diseases, our main interest should be to have qualified medical advice within their executive councils. Without medical advice they assume the part of a third-party intruder. There are some National groups who insist that local physicians must not have a voice, but we should be persistent in requesting the privilege of helping to guide their policies and expenditures. Also to be mentioned are some National agencies, each of whom insist on not allowing United Fund Drive participation. In either the organized or free-for-all type of collection, physicians can well help civic groups and guide the community charity dollar.

There is excellent liaison between the Society and our Virginia local Health Boards, as well as with the parent State Board of Health, so well guided by Dr. Mack Shanholtz.

The Virginia Council on Health and Medical Care is no problem to us. It is a well-organized allied group with a number of missions related to medicine. Its Director, Mr. Edgar Fisher, has been highly complimented for his work and the Society is proud of his achievements.

Social Security for all physicians I consider an intramural problem on which our membership will be polled soon again. The information derived from any poll is proportionate to the special knowledge of the pollee on the subject. Part of our Wednesday morning program includes exceptional speakers considering each side of this topic for you.

PUBLIC RELATIONS

And last but most important of these problems is Public Relations. In medical circles this is often confused with press-agent work. It is definitely something that we want others to do for us. The general goal is better communications between our public and our profession. The best thing Khrushchev said while over here was that communications between the heads of nations was important. Our lack of communication with the public has placed our profession on the defensive. There is lack of sympathetic thought for us, and at times we lack sympathy for the public.

It is not enough for us to practice the best medi-

cine in the world—we must take time to tell our public and our politicians how and why to continue it. The public must be processed into medical thinking and not just medical receiving. This means more physicians will have to assume more civic responsibility. We are not understood when we speak directly for the survival of the private physician. But we can and will realize results when we place the patients' interests ahead of our economic gain, or our own convenience. The single physician who treats each of his patients with intelligent consideration is the best public relations man we have.

Of more than passing interest is the employment of a Public Relations firm by the New York State Medical Society for a survey. We must not hold our breath for the answer. Instead we should apply our best public relations skill with each patient we see. A poll trend to give us heart in estimating our stand with the public was released by AMA last week. More parents wanted their sons to enter medicine than any other occupation. This might only mean that the public thinks physicians have an easy time of it. I would prefer to think it means more confidence in our profession.

In closing, I wish to pay tribute to our loyal Headquarters Staff for tireless work beyond the call of duty. I have learned the full extent of their efficiency during my term. Our Secretary, Mr. Robert Howard, is of National prominence in several organizations now and we are justly proud of him, and of our whole Staff. Our Virginia Medical Monthly, under the able management of Miss Spencer Watkins, has a splendid rating.

Having been a Delegate and a Councilor for some years I thought I knew the Society's activities well, but this year I have continued to learn as I have given. I have many thanks for our Councilors, for our Delegates, and for our Woman's Auxiliary, and also for each member who served you in any way this year. And finally I thank my one and only boss who tolerated the President of your Society for a whole year.

My term of office ends Wednesday. It is appropriate that your incoming President greet you now. He has my best wishes for the coming year, and always will have my help.

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Cancer of the Laryngo-Pharynx

Newer Methods of Treatment

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THIS PAPER deals not with long term survival rates following surgical therapy of squamous carcinoma of the laryngo-pharynx, but with preliminary studies on the extended operative attack upon advanced tumors of this variety, wherein newer methods of extirpation have been employed. The regional anatomy to be outlined consists of that brief distance between the tongue base and the entrance to the trachea and cervical esophagus. Many tumors found in this area have on first inspection grown to such size that often the exact area of primary origin is, to say the least, obscure. Therapy through the years has varied from local resection and irradiation to combined cervical node dissection and total laryngectomy with partial pharyngectomy.^{6,5} Reconstructive problems related to the continuity of the food passage are often complex and multi-staged procedures may of necessity have to be employed. Poor survival statistics from previously utilized techniques have prompted the more radical methods to be described. The lack of a suitable, one-staged operation which would obviate prolonged reconstruction of the pharynx and cervical esophagus has stimulated the application of the animal experiments to be mentioned.

Figure 1 shows the anatomy of the laryngo-pharyngeal area. One can see that there are four main areas of involvement by tumors. The base of the tongue is first noted, followed by the intrinsic larynx (vocal cords) which can be broken down into supraglottic, cordal and subglottic regions. The extrinsic laryngeal region, composed of the epiglottis, the aryepiglottic folds, the arytenoids and the pyriform sinus, is the third area. Finally we come to the pharyngeal wall which consists of those mucosal surfaces extending upward from the pyriform sinuses laterally and the cervical esophagus posteriorly. "Hypopharynx" is a term which will not be utilized

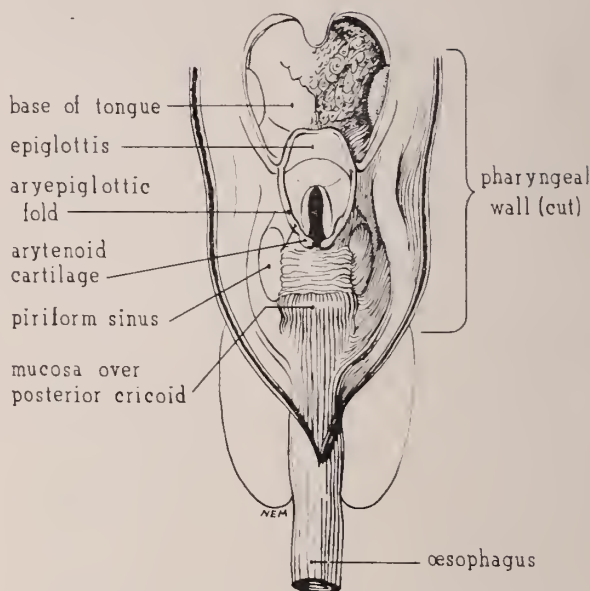


Fig. 1. Anatomical diagram showing important areas of the laryngo-pharynx.

in this discussion since it does not refer to any specific area. Cervical esophageal neoplasms will not be mentioned in this paper, as they actually make up quite a different clinical entity. Tumors invading the laryngo-pharynx from the outside will be included, however.

The pathology of this particular regional tumor area is well known. These squamous carcinomas are usually not as well differentiated as lesions of the anterior oral cavity. The decision between surgery and irradiation, however, cannot be based upon the degree of differentiation of the individual neoplasm.

The symptoms and signs in tumors of this area may be very few in the early stages, except when the cords are primarily involved. "The silent area" well describes this extra-laryngeal region and because of the paucity of early findings, many tumors reach great size before they reach the surgeon. It is interesting to note, also, that approximately one-third of these lesions result in cervical metastases prior to the onset of laryngo-pharyngeal symptoms.

It goes without saying that all patients with the

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slightest suspicion of laryngo-pharyngeal cancer should have mirror examination performed immediately. Biopsy material may be obtained with ease using this indirect method of visualization if one has a curved biopsy forcep at hand. The use of aspiration biopsy is invaluable in making the diagnosis of masses in the neck when no definite primary lesion can be identified.

Treatment is the main topic for analysis at this time. As was mentioned in the introductory remarks, irradiation therapy has been one of the most popular methods of therapy employed in the lesions under discussion.¹ Only in the past fourteen years has radical surgical extirpation come to the fore, this being possible through the many modern supportive aids which have resulted in so many advances in the field of surgery.⁴ Early intrinsic cancer of the larynx, it must be conceded, can be treated with almost equal success by irradiation or by surgery. When one has to deal with advanced lesions of the cords and with extra-laryngeal tumors consideration must be given to the more radical surgical techniques. The frequency of lymph node metastases from these tumors has certainly been one of the main factors stimulating the modern trend toward surgical extirpation.

Figure 2 is a graph showing the five-year survival

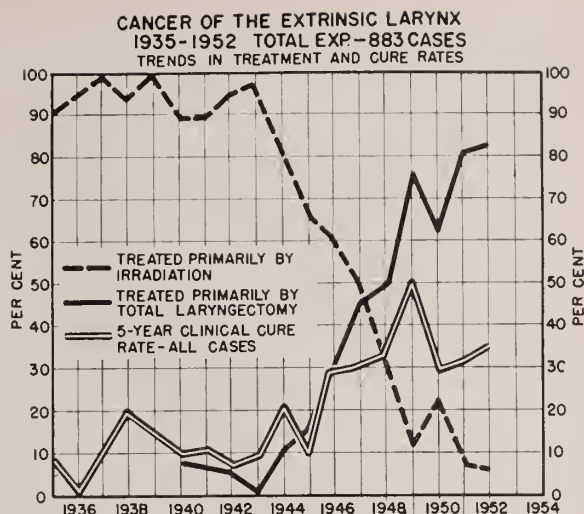


Fig. 2. Five year cure rates and treatment trends at Memorial Cancer Center, New York, New York (from "Symposium on Cancer of the Head and Neck" page 308, published by The American Cancer Society 1958).

different therapeutic techniques in each instance.

Table 1 shows a compilation of statistics on nine cases of cancer in and around the laryngo-pharyngeal area, exclusive of tumors of the cervical esophagus. We can see from these data that our approach for advanced cordal lesions and for extra-laryngeal tumors is generally one of combined radical neck dissection, total laryngectomy with or without partial

TABLE I
SQUAMOUS CARCINOMA OF THE LARYNGO-PHARYNGEAL REGION

Cases	Diagnosis	Operation	Post-Op. Course
2	Vocal cords, advanced	Neck dissection, laryngectomy	Uneventful
1	Pyriform sinus	Neck dissection, laryngectomy	Died free of disease, coronary 8 mos.
1	Epiglottitis, advanced cerv. node met.	Neck dissection, laryngectomy followed by 2nd neck dissection	Died of neck recurrence 9 mos. after 2nd neck
1	Epiglottitis with bilat. cerv. node met.	Bilat. neck dissection, total laryngectomy	Uneventful. Doing well 15 mos.
1	Base of tongue, epiglottitis & 2nd lesion pharynx	Bilat. neck dissection, total laryngectomy, staged reconstr.	Uneventful. Doing well during reconstruction
1	Pyriform sinus, advanced	Neck dissection, tot. laryngectomy with graft-stent reconstr.	Died loc. recurrence 8 mos. post-op.
1	Base of tongue, recurrent post-x-ray, with bilat. cerv. node met.	Bilat. neck dissection, sub-total glossectomy, part. mandible.	Uneventful
1	Neck, recurrent post-neck dissection, post-x-ray.	Rad. resection, tot. laryngectomy, carotid resect. & graft, pedicle repair	Uneventful

rates obtained at Memorial Hospital in New York City for extrinsic laryngeal cancer through the years.³ Changes in the popularity of surgery and irradiation are apparent. With these results in mind, the following cases are briefly outlined showing varied clinical settings and the application of somewhat

pharyngectomy. Bilateral neck dissections have been done in three instances and in one case, a recurrent cancer in the neck, the extra-laryngeal region was invaded from without. There have been no operative deaths in this series, but two patients have developed pharyngeal fistulae which closed within a period of

three weeks following their onset. Two patients have subsequently died of their disease, one having undergone radical neck dissection and total laryngectomy for advanced cancer of the pharynx with a huge cervical metastasis. A metastasis to the opposite neck treated by a second radical neck dissection followed, and he died of cervical recurrence nine months after the last operative procedure. A second patient, who underwent radical neck dissection and total laryngectomy for extra-laryngeal cancer, did extremely well postoperatively, but later died suddenly without clinical evidence of recurrence. The third death, to be described in some detail, was in a patient who developed recurrence nine months following surgery. Several cases listed in the table will be outlined more completely, and representative photographs will be used to point out operative and post-operative situations.

Figure 3 shows the post-operative condition of a



Fig. 3. R.S. (50 year old colored male) fifteen months after simultaneous bilateral radical neck dissection and total laryngectomy for carcinoma of epiglottis with bilateral cervical metastases.

patient who underwent bilateral radical neck dissection with preservation of one internal jugular vein plus total laryngectomy for a fungating squamous carcinoma of the epiglottis. It is interesting to note that this man's primary was missed prior to his coming to the Medical College of Virginia. He

underwent wide excision of a large cervical metastasis at another hospital after he came in complaining of a mass in the neck. Squamous carcinoma was found in the surgical specimen, and he was referred to the M. C. V. Tumor Clinic for follow up. Mirror examination demonstrated the epiglottic cancer and the operative procedure mentioned was carried out. Wide excision of the left neck scar was necessary and it is interesting to note that squamous carcinoma was found in the skin at the site of the previous node excision. This patient is now fifteen months post-operative and shows no evidence of recurrent or metastatic cancer. He is swallowing well and is taking esophageal speech lessons.

In Figure 4 the post-operative condition of a patient who underwent surgery for an extensive extrinsic laryngeal cancer is demonstrated. Bilateral cervical metastasis were seen preoperatively in addition to an extensive fungating cancer involving the epiglottis and tongue base. At surgery a second primary lesion was found to involve the posterior pharyngeal wall. This man underwent bilateral radical neck dissection with preservation of one jugular vein, total laryngectomy and partial pharyngectomy. The proximal pharyngeal defect was closed as a blind pouch to obviate salivary drainage. The patient is now undergoing reconstructive surgery and expectorates all salivary secretions. In spite of this unpleasant situation, he is doing extremely well and is looking forward to total rehabilitation.

In Figure 5 the surgical specimen removed by neck dissection, total laryngectomy and partial pharyngectomy for extensive pyriform sinus cancer is seen. Because of the resulting massive pharyngeal defect, a stainless steel wire mesh stent wrapped with a split thickness skin graft was used for immediate reconstruction.² (Fig. 6) The patient swallowed soft food during the eight months prior to the development of local recurrence which ultimately led to her demise. Further studies are being carried out in the surgical research laboratory at the Medical College of Virginia in the search for a more suitable prosthetic replacement for the pharynx and upper cervical esophagus. Figure 7 reveals the excellent regrowth of epithelium obtained when a portion of a dog's cervical esophagus was carefully replaced with a plastic tube. Partial stenosis still occurs in the majority of these animals but it is hoped that through further studies an improved method will be worked out in order to obviate the less than satisfactory technique presently used in humans.

Figure 8 depicts a patient who underwent bilateral radical neck dissection with resection of both internal jugular veins, partial mandibulectomy and subtotal glossectomy for an extensive cancer of the

The post-operative result in a patient with recurrent squamous carcinoma of the neck developing following radical neck dissection is revealed in Figure 9. In another hospital this individual had



Fig. 4. J. G. (49 year old white male) four months after bilateral radical neck dissection and total laryngectomy with partial pharyngectomy for two separate squamous carcinomas with bilateral cervical metastases. (The parallel scars in the left pectoral area represent the borders of the delayed pedicle flap which is to be used in pharyngeal reconstruction.)



Fig. 5. Surgical specimen (removed by radical neck dissection and total laryngectomy plus partial pharyngectomy) from W. J. (57 year old colored female) showing the extensive squamous carcinoma of pyriform sinus.

base of the tongue which had failed to respond to irradiation therapy. A portion of the epiglottis was also removed but the uninvolved larynx was preserved. This patient shows no evidence of recurrence six months post-operatively but is not swallowing well enough to allow removal of the feeding and tracheostomy tubes.



Fig. 6. Operative field (skin graft-covered wire mesh stent is outlined) after removal of specimen shown in Figure 5. Sutures mark junction of graft and cervical esophagus. The stent's pharyngeal anastomosis is hidden from view in the upper portion of the field.

undergone successful irradiation of a cancer of the floor of the mouth but developed recurrence in the



Fig. 7. Autopsy specimen of dog's laryngo-pharynx and esophagus showing the area of epithelial growth following plastic tube replacement. Note the stenotic distal anastomotic site as indicated on the right.



Fig. 8. C. N. (65 year old white male) four months after bilateral radical neck dissection (including removal of both internal jugular veins), subtotal glossectomy and partial mandibulectomy for extensive carcinoma of tongue with bilateral cervical metastases. Note the almost complete absence of facial swelling.



Fig. 9. M. A. (46 year old white female) two months following radical resection of recurrent post neck dissection carcinoma which involved the common carotid artery. The teflon arterial replacement can be seen curving beneath the skin just posterior to the tube pedicle.

upper neck following a neck dissection for subsequent metastasis. Irradiation therapy, given follow-

ing the neck dissection and later, also, to a post-operative recurrence in the upper neck, had failed to halt the development of an ulcerated neoplasm involving the common carotid artery. At the Medical College of Virginia wide extirpation had to be performed with removal of the carotid bifurcation and upper common carotid artery, plus laryngectomy. The knitted teflon arterial replacement can be seen in the photograph curving beneath the skin posterior to the tube pedicle which was elevated from the upper chest to cover a large soft tissue defect. This patient has subsequently undergone division of the pedicle and is free of disease five months following surgery.

CONCLUSION

In this brief presentation newer methods of surgical management in advanced cancer of the laryngopharynx have been presented. In other centers such an all out surgical attack has resulted in an impressive improvement in patient survival. It is hoped that eventually our long term cure rates will compare favorably with those of Martin, Shaw and others. In the meantime, a continuation of this extirpative

approach seems warranted in the treatment of these deadly neoplasms.

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"Silent" Heart Attack

Coldness of one foot suddenly occurring after an operation may be a sign of a "silent" heart attack. The coldness is the result of a circulatory block in the leg, caused by a blood clot carried from the heart, Dr. Nathan Frank, Jersey City, said in the July 4 *Journal of the American Medical Association*. He believes that some sudden postoperative deaths attributed to pulmonary embolization (blood clots originating in the artery leading to the lungs and moving to the heart) may actually be the result of silent myocardial infarctions.

Heart attacks after surgery for some other ailment may pass unnoticed because the pain is thought to be associated with the surgery.

Whenever a person suddenly develops a coldness of one foot 4 to 21 days after surgery, silent myocardial infarction should be considered as a cause.

In reporting three cases of cold foot following surgery, the syndrome had not been previously described.

It is "of great clinical significance," because, if unrecognized, it may cause death, especially with the trend to early ambulation after surgery.

He recommended that patients be questioned daily about the presence of pain and coldness in the foot and calf. In addition, all patients should be given an electrocardiographic examination before surgery to determine the presence of old myocardial infarctions. If they are present, precautions against the development of embolism can then be taken.

Dr. Frank is associated with the Jersey City Medical Center and Seton Hall College of Medicine and Dentistry.

Experience With Long-Term Anticoagulation

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THE PURPOSE of long-term anticoagulation is to delay the disabilities or fatal conclusions from thromboembolic episodes. Since the discovery of Dicumarol by Dr. Karl Paul Link and his associates in 1941, the Coumarin derivatives have found a wide field of usefulness both for short- and long-term anticoagulation.

We have been using anticoagulants on a long-term basis for approximately seven years, and for four years Coumadin as the drug of choice. In this four year period since we have been using Coumadin we have had over one-hundred patients on treatment and at the present time we are actively carrying fifty-five.

Naturally all other recommended forms of treatment are carried out along with anticoagulant therapy.

We do not feel our small series lends itself to statistical analysis, and we refer you to the work of Wright,¹ Tulloch,² Foley,³ Nicholson,^{4,5} Shapero,^{6,7} and others for more exhaustive study.

The indications as set forth by Dr. Wright,¹ et al. are as follows, with the number of patients we have in each disease category listed to the right:

1. Coronary disease	31
a. Coronary thrombosis with myocardial infarction	(23)
b. Angina pectoris or impending thrombosis	(8)
2. Recurrent thrombophlebitis within a short period of time	5
3. Multiple arterial occlusions if it is believed that the thrombosis or embolism is playing the causative role	4
4. Embolization with auricular fibrillation	2
5. Idiopathic and recurrent pulmonary embolism or thrombosis in which the original site may never be known	2
6. Idiopathic or familial thrombosing conditions	1
7. Recurrent cerebral insufficiency	10

Presented before the Virginia Section, American College of Physicians, Hot Springs, March 21, 1959.

In the group we have on current therapy approximately 25 per cent have combined problems, such as coronaries with cerebral insufficiency, peripheral insufficiency, pulmonary emboli, or polycythemia.

The use of anticoagulants in cerebral vascular disease has been approached with hesitancy in all quarters. The difficulty here is in determining whether there has actually been a hemorrhage of the vessel or intimal tear in which case anticoagulants would be contraindicated. Prior to anticoagulant therapy every effort should be made to rule out a gross lesion, tumor, hematoma, or cerebral hemorrhage. No anticoagulant should be used with a damaged brain, if damage is complete and progress has stopped treatment is useless. Therapy is only advantageous for the prevention or arrest of cerebrovascular disease.⁸

Those conditions for which treatment has been beneficial are as follows:

1. Basilar vertebral artery syndrome
2. Internal carotid artery syndrome
3. Small Stroke Syndrome

In all of our patients with cerebral insufficiency a very careful history, with general and neurological examinations, routine lab, urea, cholesterol, electrocardiogram, chest x-rays, skull x-ray, and spinal tap with careful measurement of pressure, protein, Wassermann and Colloidal gold, are obtained. We also obtain a neurosurgical consultation in all cases prior to the initiation of treatment, and try to decide on the necessity for arteriography, air study, and surgical repair of the vessels.

In eight patients we have had to discontinue the medication; there were four cases due to GU bleeding, two gastro-intestinal bleeding, one excessive bruising, and one patient who was going to surgery. Two of the GU bleedings were found to have renal calculi, and the two GI problems of bleeding both had duodenal ulcers. One patient had rectal bleeding which led to the diagnosis and successful removal of carcinoma of the colon.

Most bleeding at therapeutic levels has been of

minor intensity in the way of easy bruising, hematuria, or nose bleeds. Our one severe bleeding case requiring transfusion was a patient with a duodenal ulcer, and the anticoagulant probably simply exaggerated what was already destined to occur.

In this four year period of time we have had twenty-one deaths from the primary vascular diseases in the series of approximately 100 patients who have been on treatment.

The contraindications¹, or indications for cautious use of anticoagulants are:

1. Hypoprothrombinemia due to vitamin K deficiency or severe hepatic disease.
2. Vitamin C deficiency.
3. Renal insufficiency of marked degree.
4. Blood dyscrasias with bleeding tendencies.
5. Surgery, especially of the central nervous system, and other trauma with gaping openings.
6. Ulcerations or CA of the G.I. and G.U. tract.
7. S. B. E.
8. Marked hypertension.
9. The irresponsible patient.
10. The physician not interested.

The prerequisite for the institution of anticoagulant therapy requires a cooperative patient and a conscientious doctor familiar with the use of anticoagulant drugs.

Coumadin has the following properties:

1. Prompt onset of therapeutic hypoprothrombinemia (usually within eighteen hours a therapeutic effect is reached, and a maximum effect is reached in thirty-six hours). The therapeutic level will then last 120-148 hours (five to six days).
2. Ease of maintenance.
3. Fewer escape episodes. (Under control for 90 to 93% of the time).
4. Ready counteraction by vitamin K₁ Oxide.
5. Resumption of response with Coumadin without a lag after the use of vitamin K₁ Oxide.
6. May be given mg. for mg. per os, IV or IM.
7. The cost to the patient is about ten cents per day (10 mg. tablet) for the drug. A prothrombin time cost \$3.00 each, and the average cost therefore figures about \$9.00 per month for those patients on treatment, which includes two prothrombin times and the medication.

An attempt is made to keep the patient's prothrombin time at two to two and half times the control. Initially the prothrombin time is determined daily. We use the Quick 1 stage with simplastin.

Although an effective level of therapeutic hypoprothrombinemia may persist for four to six days after the initial dose, we attempt to use a continuous maintenance therapy. The patient is therefore given 50 to 62.5 mgs. of Coumadin empirically on the initial day, and Coumadin thereafter according to the daily prothrombin time. We give smaller initial doses in those patients with heart failure, liver disease, and use somewhat of a lower scale in these patients. Schedule of treatment is begun on the third day, and is as follows:

If the patient's prothrombin time is

20 seconds or less	25 mgs. of Coumadin
21-25 seconds	12.5 mgs. of Coumadin
26-30 seconds	6.25 mgs. of Coumadin
31 seconds or more	0 Coumadin

We devised this system to obviate the necessity of the nurse calling each day for an order, and it also gives us a much better uniformity as to the time of dosage each day. Generally it will take seven to ten days to arrive at the optimum daily dosage of Coumadin. For patients being discharged on long term therapy we tend to determine the prothrombin time about two to three times a week for the first week or two, and then once a week, and gradually to one time every two to three weeks. There are no patients who are allowed to go over a three week period of time.

CONCLUSIONS

Our cases have left us with several firm impressions:

1. The patient seems to have fewer symptoms and thromboembolic episodes while on treatment. Thus there seems to be an increased exercise tolerance in those patients with angina or peripheral vascular insufficiency; episodes of cerebral vascular insufficiency seem to be less; and we have had no embolic episodes while the patients were on treatment. We have also had further evidence of the benefit of long-term therapy, and this is afforded by patients subjectively volunteering that they can note a definite increase in symptoms when it has become necessary to stop anticoagulants for dental or surgical procedures.
2. Symptoms do continue in some patients on treatment, and of course coronary thrombosis with myocardial infarctions and cerebral vascular accidents occur in spite of therapy.
3. We have had no deaths or serious disabilities due to lack of control or loss of control.

4. Bleeding has occasionally pointed to an organic lesion.
5. A very important point which we do not lose sight of is the effect of the enthusiasm of the doctor on the patient's disease. This form of therapy we realize has tremendous psychological effects we cannot measure. It also brings the patient in more routinely, and we often have been able to give prompt attention to early heart failure and impending infarcts.

SUMMARY

In summary we have found Coumadin an effective, safe, relatively inexpensive and easy drug to regulate for long-term anticoagulant therapy. Our patients do seem to have fewer thromboembolic episodes and symptoms; it affords an opportunity for closer supervision of the patient; and we have not found this a hazardous form of treatment.

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Skin Diving Is Not Healthy for Some

Skin diving may look like an adventuresome activity, but for some persons it could be dangerous. According to an article in the August issue of *Today's Health*, published by the American Medical Association, some five million Americans are now taking the plunge into the world under water.

The article said that skin diving makes demands on the body which are unlike those met in everyday life. For this reason it is unsuitable for persons with certain types of disorders:

—Navigating under water requires heavy exertion and those with respiratory problems or heart and blood vessel disease should not attempt it.

—Because of pressure changes which the skin diver will encounter, the ears and sinuses must be in good condition and able to equalize pressure.

—A perforated eardrum means that water will almost certainly enter the middle ear and diving should be ruled out. Ear plugs are no help in this case since they are for surface swimming only and should not be used for diving; water pressure would cause ear pain and possible injury.

The mental attitude of some persons can make skin diving a hazardous business, the article continued. Swimmers who are reckless and think it's fun to take unnecessary chances, or those who panic in emergencies, are likely to be threats to themselves and their fellow divers.

If you intend to be a skin diver, the article suggests consulting a physician beforehand to determine your fitness for diving. It's a precaution that will pay safety dividends.

The Surgical Aspects of Tumors in Infants and Children

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MALIGNANT DISEASE is exceeded only by accidents as a cause of death between the ages of five and fourteen, and malignancy is the fourth ranking factor for fatalities from one to four years of age. Even more significantly, except for congenital abnormalities, it is the only disease in these age groups which is increasing in incidence.¹³ Some malignancies in infants and children are potentially curable, and the physician must strive to avoid too little treatment given too late. The problem of malignancy in children, however, has another important facet. With the increasing emphasis on the problem of cancer and its early detection, parents worry more about symptoms and signs in their children which they fear are caused by cancer. A clearer picture of malignancy and non-malignant conditions in children helps to deal with these problems without the children having too much treatment given too early.

Neoplasms in children differ in several ways from neoplasms as they occur in adults. The common sites of malignancy differ as is shown in Figure 1.^{4,10}

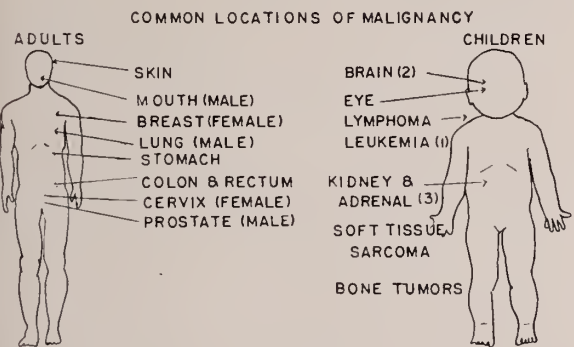


Fig. 1. Common sites of malignancy in the adult and in the child.

The common locations of adult cancer, such as the breast, cervix, stomach, or lung are extremely rare, if not unknown, in children. The type of tumor frequently seen in a given location in children differs as well. (Figure 2) Sarcomas outnumber car-

cinomas in infants and children. These differences have importance in practice because the fears that parents have for their children are usually based on knowledge of the signs and the symptoms of adult

TYPES OF TUMORS IN CHILDREN

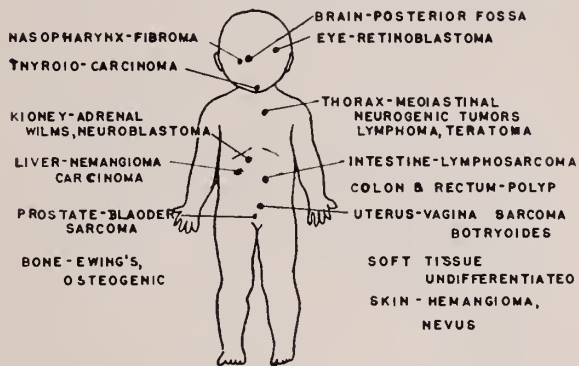


Fig. 2. Common types of tumors in children by location.

malignancies. In many cases the symptoms in children may arise from lesions of physiological, inflammatory, or congenital etiology.

Tumors in infants and children have highly unpredictable courses. The rapid and dramatic changes seen in the course of normal growth and maturation of a child are reflected by the greatest variations in the behavior of tumors in the same ages of development. As an example of such variation, the best prognosis in the treatment of Wilms' tumors and of neuroblastomas occurs in the first year of life, as contrasted with the poorer outlook seen later in childhood.⁸

The clinical picture may not correlate with the microscopic appearance. A histologically benign tumor may grow in a vital location, and prove very deforming or even fatal, as for example, massive angiomas of the head and neck. Malignant tumors in childhood do tend to run rapid clinical courses.

Symptoms of tumors in infants and children are usually non-specific or totally lacking. Pain is rarely a presenting symptom except for the deep-seated and poorly localized pain associated with a bone tumor. Generalized symptoms are rarely seen

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early with the possible exception of the vomiting without nausea and disturbances of gait sometimes seen with brain tumors. In general the single most valuable sign of malignancy in infancy and childhood is an unexplained solid or cystic mass which can be touched or felt by the palpating hand, and which makes early diagnosis a possibility.⁶ Of paramount importance to remember is the fact that malignancy in children can be cured, and in many types of tumor with better percentages of survival than can be found in the treatment of malignancies in adults.

ABDOMINAL MASSES IN THE NEWBORN

The common causes of abdominal masses in the newborn as reported by Longino and Martin¹¹ are shown in Figure 3. In the diagnostic work-up, one

ABDOMINAL MASSES IN THE NEWBORN

(Longino and Martin, 1958)

Benign

Kidney (Hypoplastic, multicystic, etc.)	-----	15
Liver and Biliary	-----	3
Gastrointestinal	-----	3
Female Genital	-----	1
Retroperitoneal	-----	1

Malignant

Wilms'	-----	1	Neuroblastoma	-----	1
Hepatoma	-----	1	Leiomyosarcoma colon	-----	1

(*Pediatrics*, Vol. 21, pages 596-604, April 1958 "Abdominal Masses in the Newborn Infant")

Fig. 3

valuable examination often overlooked is transillumination of the abdomen. In a dark room cystic lesions of the abdomen can be transilluminated with a bright light in much the same way as a hydrocele. Because of the high incidence of renal lesions an examination of the urinary tract by an intravenous urogram should always be made. If a definite mass is present abdominal exploration should be performed, even in the newborn period, to rule out or to prevent malignancy, to prevent infection in cystic lesions, and to avoid obstructive symptoms from the increasing size of the mass.

One mass in the newborn, though rare, which should be remembered is the "hydrometrocolpos", an obstructed uterus which has been distended by secretions resulting from maternal hormonal stimulation. These "tumors" are sometimes associated with an imperforate hymen, but may arise from an atresia of the upper vagina with a normal hymen. The cervix cannot be visualized, only a bulging vaginal wall. The hymen or vaginal wall should be

carefully incised under general anesthesia with the urethra and rectum clearly identified, even if laparotomy is necessary. With drainage the uterus will return to normal size.

Large sacrococcygeal teratomas, arising from the region of the coccyx and appearing in the newborn period or early childhood, may grow anteriorly, posteriorly, or in both directions. Tumors lying in front of the sacrum may be silent and may present with rectal or bladder obstruction. Rectal examination, which should never be omitted in any infant with bowel or bladder dysfunction, will reveal the pelvic mass. Sacrococcygeal teratomas should be removed when diagnosed since about 20% are malignant.¹⁴ Early operation is attended by a 90% cure in the newborn group as contrasted with a 37% survival in the older children.⁷

ABDOMINAL MASSES IN INFANCY AND CHILDHOOD

One of the most important surgical tumors of infancy and early childhood is the abdominal or flank mass in which the Wilms' tumor of the kidney or a neuroblastoma arising from the sympathetic nerve tissue of the adrenal region must be considered. The tumors are usually large and frequently asymptomatic. They are often found incidentally by the mother in the course of bathing the child. The highest incidence of occurrence is around two years of age. Palpation of the mass should always be gentle to avoid dissemination of tumor cells into the venous system. The child should be worked up with a minimum of time spent on unnecessary diagnostic procedures or in observation to determine if the mass will change in size. Routine laboratory studies together with an x-ray of the chest and an intravenous urogram should be completed rapidly. The urogram can confirm the presence of a mass, and will establish the function of the kidney on the contralateral side. The clinical diagnosis can be suspected from the various physical and radiological findings, but a definite diagnosis is not important from the standpoint of proper therapy, which is immediate transabdominal exploration. The only real problem to decide is whether or not the child has a definite or even probable flank mass.

Nephrectomy and immediate post-operative radiation are the commonly accepted treatment for Wilms' tumors. Complete or partial removal of a neuroblastoma is also followed by radiation therapy which can be started on the day of surgery. Due to the sensitivity of the neuroblastoma to radiation a com-

bined therapeutic approach is necessary, but exploration even if only for biopsy should precede any radiation therapy.

The incidence of cures for Wilm's and neuroblastomas from Gross' series⁸ clearly reflects the difference in prognosis with various ages. The overall survival in Wilms' tumors is 47.3%, but in infants treated under twelve months of age survival was 80% contrasted with 43% in children over twelve months. A similar difference is reported for neuroblastomas with a 29% overall cure, with 45% survival in patients treated under twenty-four months of age and 11% survival over twenty-four months of age. If a recurrence occurs, it usually, though not always, will manifest itself within eighteen months or less. Delayed recurrences occur extremely rarely. The most common site for secondary spread is the lung for Wilms' tumors, and to the liver, skeleton, or orbit for neuroblastomas.

MASSES IN THE NECK

A palpable mass in the neck presents another common problem arising in pediatric practice. Some of the conditions giving rise to such a lesion are depicted in Figure 4. Inflammatory nodes are fre-

MASSES IN THE NECK



Fig. 4. Masses in the neck of children.

quently the cause of enlargements in the jugular, submaxillary, and posterior cervical regions. Branchial cleft cysts arise along the anterior border of the sternomastoid muscle, while thyroglossal tract remnants develop along the midline. Benign tumors such as epidermoid cysts, dermoid cysts, and cystic hygromas occur throughout the neck.

Two interesting lesions seen in the infant are fibromatosis or a hematoma of the sternomastoid muscle, and secondly the brawny swelling of the skin and subcutaneous tissue overlying the mandible involved with infantile cortical hyperostosis, also known as Caffey's Disease. The swelling associated with fibromatosis of the sternomastoid muscle often appears at two to three weeks of age as a hard mass in the lateral region of the neck. Because the mass

usually regresses spontaneously non-operative observation is indicated. Care must be taken to prevent the development of a torticollis by carefully followed exercises and physiotherapy. Infantile cortical hyperostosis may occur in a number of locations other than the mandible, though this is a frequent site. A brawny swelling in the tissues over the lesion develops which simulates an inflammatory or neoplastic lesion of the cheek or of the parotid gland. The infant becomes quite fretful, often febrile, and loses weight. Radiological examination of the mandible will confirm the diagnosis. Treatment with cortisone has been recommended³, and rapidly improves the infant.

The problem as to when to advise biopsy of a suspicious node in the neck sometimes perplexes the physician. While a lymphoma of the cervical nodes is rare in children, it does occur. Anderson¹ has also emphasized solitary lymph node enlargement as the initial sign of leukemia. Many factors determine the advisability of cervical node biopsy. The history is of considerable value. Sources of infection should be investigated, but may coexist with a lymphoma. Unless the findings and complete laboratory studies definitely raise suspicion, empiric treatment for infection or simple observation for a short period is usually justified. Persistent and suspicious cervical node enlargement, particularly unilateral and unexplained, should have biopsy.

Thyroid tumors in children remain somewhat controversial. Recent reports^{5,15} stress the apparent increased incidence of prior irradiation in children and adolescents who present with a malignancy of the thyroid. The danger of malignancy in nodular goiters in children is significant, being 29% in a composite series reported by Winship.¹⁷ Prompt excision of thyroid nodules in children appears definitely indicated. A composite report on the treatment of thyroid carcinoma in children by the same author gives an overall survival of 83% in 192 patients with forty-eight patients dying of their disease.

POLYPS OF THE COLON

Polyps of the rectum and colon can be divided into three clinical groups—the single polyp, scattered or multiple polyps, and familial polyposis.⁸ The prime symptom of a colonic or rectal polyp is bright rectal bleeding. The majority of single or scattered polyps are in the rectum and can be reached on rectal examination. Sigmoidoscopy should be performed in all instances of rectal bleeding in infants and children where no obvious cause such as an anal

fissure can be found. In infants and children sigmoidoscopy should be done under heavy sedation or general anesthesia because of the risk of perforation in a wildly struggling child. Polyps which are found can be removed with a snare adapted for simultaneous coagulation of the stalk. Polyps situated above the reach of the sigmoidoscope must be removed by laparotomy and colotomy. If a polyp has been found on sigmoidoscopy, a barium enema is always indicated, and careful follow-up of the case carried out. The risk of malignancy is extremely slight with single or scattered polyps. Colonic and rectal polyps should be removed to prevent bleeding, to prevent their acting as the lead point for a prolapse or an intussusception, and possibly to prevent the later development of malignancy.

While single or scattered polyps can be treated rather satisfactorily, the treatment of familial polyposis is complicated by the widespread involvement of the bowel with continuing development of hundreds of polyps and the high incidence of malignancy even at an early age. In this condition sub-total colectomy must be performed, and constant observation and fulguration of polyps which present in the remaining rectal segment continued.

BREAST ENLARGEMENT

A good example of a tumor which causes parents undue concern is enlargement of the breast in young children. Haagensen⁹ reports only six well documented cases of breast carcinoma under twenty years of age, and as a first consideration it can be assumed that malignancy of the breast is extremely rare in childhood. The causes of breast enlargement in childhood are tabulated by Steiner¹⁶ as shown in Figure 5. The most frequent and important of these

BREAST ENLARGEMENT IN CHILDREN (Steiner, *Ped. Clin. N.A.*, 1955)

- 1 Physiological—Newborn, Adolescent
- 2 Associated with Endocrine Changes

True Precocious Puberty	}	Hypothalamic
		Idiopathic
Pseudoprecocious Puberty		
Ovarian and Adrenal Tumors		
END-ORGAN SENSITIVITY		
Medicational		
- 3 Gynecomastia in the Male
- 4 Miscellaneous

}	Tumors (very rare)
	Pseudohypertrophy

Fig. 5. Enlargement of the Breast in Childhood (*Pediatric Clinics of North America*, "Enlargement of the Breasts During Childhood". 2: pages 575-593, May, 1955)

causes are normal physiological enlargement and what is defined as an end-organ sensitivity of one

or both breasts. The latter accounts for the majority of enlarged breasts seen in the four to ten year old group who present with a palpable tender bud beneath one areola. Axillary nodes are frequently palpable and have little diagnostic value. The patient often gives a history of previous trauma or of excessive examination of the breast. The mass may vary considerably in size from day to day. Patience and mere observation of the lesion is usually rewarded by the regression of the swelling, or often in the older girl, by the development of a similar normal enlargement of the contralateral breast. The parents must be carefully reassured of the benign nature of the swelling and of the rarity of malignancy in prepubertal breasts. Biopsy should be reserved for very rare cases, and should be done with the utmost care to preserve the bud beneath the areola in the female. The usual wedge biopsy taken from an eight year old's breast may well remove one-third to one-half of the future breast tissue with a resulting misshapen breast at puberty. The other causes of breast enlargement are uncommon, but should be remembered particularly in bilateral enlargements.

HEMANGIOMAS AND NEVI

Among the most common tumors seen in the everyday pediatric practice are the hemangiomas and the nevi. The treatment of hemangiomas must be individualized and several factors considered. The type of hemangioma and its natural history is important. The most common lesions are the capillary hemangioma (strawberry or raspberry mark), the cavernous hemangioma (bluish and subcutaneous), and combination of cavernous elements with overlying capillary components.¹² Spontaneous regression by a process of thrombosis and subsequent scarring is more common with the capillary than with the cavernous type. When first seen by the physician the process of regression may be evident as a whitish-gray central discoloration. A high percentage of hemangiomas will thus take care of themselves with satisfactory cosmetic and functional results. Malignancy is exceedingly rare, and is not an important factor in the consideration of treatment of the lesion. The location of the hemangioma must be considered in any decision to treat or to observe and also in determination of the best method of treatment. Although benign the potential of hemangiomas, particularly those located in critical areas such as the neck, must not be underestimated. The rate of enlargement of the lesion must be taken into account; whether it is enlarging commensurate with the growth of the child

or at an excessive rate. All of these factors must then be balanced against the expected result which will be obtained by treatment.

Methods used in the treatment of hemangiomas vary. Carbon dioxide snow can be used for cauterization of superficial small lesions to initiate the process of thrombosis. Superficial radiation has been used with very good results as reported by MacCollum and Martin.¹² There has developed some reluctance, however, in the light of present concern about the possible relationship of radiation to the development of malignancy in children to use radiation if other satisfactory methods can be used or if the lesion can simply be observed. Surgical excision of hemangiomas which require treatment is often quite satisfactory although considerable scarring can result from the excision of large lesions in infants. Surgical removal should, therefore, always be advised only with a clear understanding of what the non-operative course of the lesion would probably be as well as the functional and cosmetic result to be expected from excision.

Nevi are quite common in children, though malignant melanomas are quite rare. Juvenile melanomas in the child will often present an alarming microscopic appearance, unless the age of the patient is made known to the pathologist. The indications for removal of nevi in children are largely cosmetic. Nevi occurring in locations where the incidence of malignant melanoma is high in adults should be removed prophylactically prior to puberty.

RECURRENT MALIGNANCY

The treatment of a recurrent malignancy poses major problems to the attending physician. Pain must often be managed with narcotics which are tolerated well by even the two to three year old. Chlorpromazine and related drugs seem to be of value. Just as in the adult with malignancy, concern for bowel and bladder function and for care of the skin is necessary for the patient's comfort. The extreme unpredictability of tumors in children must not be forgotten, and all forms of treatment considered. Additional courses of radiation therapy, often well tolerated, may help selective lesions, particularly in bone, the lungs, or in the mediastinum. Chemotherapy with nitrogen mustard preparation and other newer agents may be worthy of trial. Repeated surgery on recurrent malignant lesions, such as teratomas still localized, may be successful.

One complication, which may often be forgotten, in infants and children with a history of major

abdominal surgery is the development of intestinal obstruction due to peritoneal adhesions. For example, a child with a previously resected neuroblastoma who presents with acute abdominal pain, vomiting, and distension, may be completely cured of his malignancy, and have a potentially fatal intestinal obstruction from a simple adhesive band.

PSYCHOLOGICAL PROBLEMS OF PATIENT AND PARENTS

As difficult as any part of the medical management of malignancy in children is the psychological handling of the patient and of the parents. It has been said that, "There are few other human experiences that involve more suffering and anguish than the threatened or actual loss of a child."² The child's own reaction depends in large measure upon his age and background. Children infrequently concern themselves with death per se. They more often exhibit resignation and apathy as the disease progresses, and may appear to mature disproportionately. The child looks for kindness, continued interest, and tangible proof that the physician is "for him". Extreme efforts on the part of the parents and relatives, however, to make "his last months something for him to remember" may make the child more anxious than happy, if not moderated.

In the presence of the child with a malignancy the word "cancer" should be avoided. The attentive ears and active mouths of the other children on the ward must also be remembered and discussion in front of them likewise avoided. The grapevine of a pediatric ward takes second place to none.

The parents' usual reaction to the initial shock that their child has a malignancy is an absolute rejection of the idea. They fight the diagnosis and are antagonistic toward anyone who has a part in making it. The parents often desire other medical opinions. Following this reaction, guilt feelings are almost uniform. The parents will say that they should have brought the child to the physician earlier, or that they should have suspected something was wrong months ago. The parents should be helped in every way to express these feelings in order that they may be reassured. Unless the condition is known to be familial, the family should be reassured about the safety of other siblings. At no time is it more important that the physician take adequate time and exhibit a maximum of patience than when he tells parents of a diagnosis of malignancy in their child. An unhurried half hour spent with the parents will many times save hours of anxious questioning

later. The physician should establish securely the impression that he is interested, concerned, informed, and will do the utmost for their child. Nothing appears so important to the parents as whether or not the physician is willing to put himself out for their child even though the outlook may be hopeless.

Basic to the treatment of malignancy in children is the presence of one physician for the parents—a physician who “knows the case” and who is readily available to the parents for the most minor questions. This may be the family doctor or a specialist, but he must be available to the family. The parents want one physician to whom they can turn, even if only to recommend a glycerin suppository for the child’s constipation. If special therapy is to be given at some distant medical center, it is well for the same physician to make the arrangements rather than to have the family shop around on their own. Bozeman² has called attention to the importance of aid for the mother such as assistance with some of the household obligations and with transportation problems. A suggestion from the physician may secure the help of neighbors or local groups. Temporary relief from the truly overwhelming burden of caring for the ill child is sometimes wanted, and here the physician’s order of a few days’ hospitalization for the child may prevent the total breakdown of the family. Lastly the mother needs to know that the doctor understands how catastrophically the family’s life has been disrupted by the development of malignancy in her child.

Many believe that the child with recurrent and probably fatal malignancy should not be treated at all. While this may hold true in some cases, it appears to be the general impression of those who have observed large groups of parents with children having malignancies, that there is a strong desire to prolong life as long as possible, compatible with common sense and relative comfort. In short, ignoring the child may hurt him more than the pain associated with a transfusion needle, or to treat the child’s pain requires that his tumor be treated. Added to this is the very unpredictable nature of malignancy in childhood, and a strong case exists for heroic therapy. A point of no return exists, but remission with alleviation of pain for six months has been stated by families to have been very rewarding both for the patient and the family.

CONCLUSIONS

1. Malignancy in infants and children is very unpredictable, usually rapid, but can be cured in some cases.

2. Symptoms of malignancy in infants and children may be minimal. The most important sign is an unexplained lump or mass.
3. Prompt excision of abdominal tumors, particularly in the infant or newborn, is important.
4. Some benign tumors can deform or kill if allowed to progress too far.
5. Malignancy in children rarely arises in the common sites of cancer in adults. Surgery should be avoided in most cases of breast enlargement in children.
6. The treatment of hemangiomas should be based on a thorough knowledge of the natural history of the lesion, and of the results to be expected from treatment or observation.
7. The treatment of the parents is many times as important as the treatment of the child. As a rule treatment should be continued, and the physician stubbornly do his best until the end.

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Whose Responsibility

A prevalent defense offered against a charge of drunk driving is that the defendant was not intoxicated but was dizzy or blacked out from medicine which had been prescribed for him by a physician. Medicine might be necessary, but should this constitute a valid defense, even if it be true?

Certain court rulings indicate it should not. In a 1953 New York case, several boys were hurrying back to their summer jobs at a resort in the northern part of the state. It was early in the morning and they had spent the night sightseeing in the big city. Their car was involved in a crash which killed two people.

There was no explanation but that the driver had fallen asleep. It was established that he had not been to bed that night and that he had remarked to his companions that he was very sleepy. An eyewitness stated the car had gone out of control for apparently no reason. There were no mechanical defects.

The court ruled he knew his exhausted condition and that in insisting upon pushing on he intentionally chanced the consequences and must take them.

In a 1950 New Jersey case, a defendant involved as a driver in a fatal crash testified he was suffering from a disease which caused him to be subject to spells of extreme dizziness. This was confirmed by a physician but the court ruled that driving under these circumstances, knowing he was suffering from this disease, "constituted an act of wantonness and a disregard of the rights or safety of others."

There are other cases, but these are typical. Would not one who takes drugs which can interfere with his driving be equally responsible? Not considering what the physician's responsibility as to warning him might be, should not the user have a responsibility to determine if it is safe for him to drive?

Driving today is an integral part of our lives. A person with an injured foot will not hesitate to ask his doctor's opinion as to when it is safe for him to walk on it, because he is anxious to use it again but does not want to cause further injury to *himself*. A busy man who is ill will ask his physician when he can return to work, because he wants to get back but doesn't want to aggravate *his* illness. A mother with a sick child will ask the doctor when it will be all right for the child to return to school, because she doesn't want *her* child to fall behind in his work but, at the same time, doesn't want him to risk a relapse.

Thus, why isn't it incumbent upon a patient given drugs to ask if it is practical for him to enter into the most dangerous task we perform in our everyday lives and which cannot only kill or injure *us* but other people?

In a task calling for skill, mental alertness and good physical condition, it should certainly be our responsibility to ascertain we are up to it. If not, we should face the consequences.

(Written by Colonel C. W. Woodson, Jr., and published by the Virginia Highway Users Association in Virginia Trucks.)

The Biological and Medical Significance of Copper

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COPPER, classified biologically as a trace element, has an atomic weight of 63.54, an atomic number of 29, and has been established as an essential element for plants and animals.²⁷ This metal is universally distributed in nature. Its uses are varied. It is found in the hemocyanins, the respiratory proteins of certain marine animals. It is essential for the production of hemoglobin, the cytochromes, cytochrome oxidase, peroxidase, catalase, and chlorophyll. It is found in many plant and animal enzymes as well as other proteins.²⁰

Copper commonly exists in two valence states other than the metal itself. These are the cuprous and cupric forms which are shown in Figure 1. The

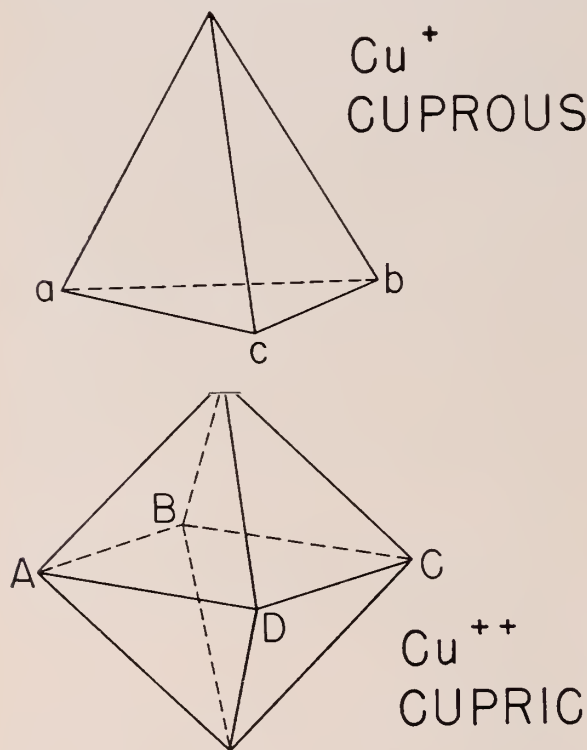


Fig. 1. Geometrical shape of the cuprous and cupric ions¹⁷ Chelation may occur at any three points (for example abc) on the cuprous ion and at any four points (for example ABCD) on the cupric ion. The other point on the cuprous ion and the other two points on the cupric ion are utilized in chemical binding.

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geometrical shape is an important feature in relation to its biological functions since its biochemistry is largely explained in terms of chelate bonds with proteins and other organic compounds, rather than of the usual chemical bonds. Chelate bonds are much weaker than covalent bonds. However, two such bonds are not just twice as stable as one. In fact, a linkage with a half life of one minute at room temperature would increase its half life to nearly 250,000 years with two bonds, assuming that temperature and other conditions were unchanged.¹⁷ This explains how the cupric ion chelated at four points can assume complexes with stabilities equal to or exceeding those of covalent bonds.

Another important feature of the organic copper complexes is the organic portion. The arrangement of the groups, radicals or atoms at the site on the organic molecule attached to the copper may greatly alter the stability of the complex. Those complexes that involve the least strain on bond angles and incorporate the most chelate bonds will be the most stable. Thus a protein having a template, or site of attachment, to which the four chelate bonds of the cupric ion may attach (Figure 1, points ABCD) will form a stable complex, whereas if the same protein site accepts the cuprous ion with only three chelate bonds (Figure 1, abc) the attachment will be incomplete and less stable.

Certain protein or organic compound binding sites for metals are non-specific. Such is the case with ethylenediamine tetra-acetic acid (EDTA) and dimercaprol (BAL) which are quite non-specific in terms of the atoms chelated. In other cases, the binding site is of such a nature that only one element is able to form a stable complex. Other compounds will accept two or more elements, but they usually have a preference for one. If another element is occupying the space it can be displaced by the atom which is preferred.

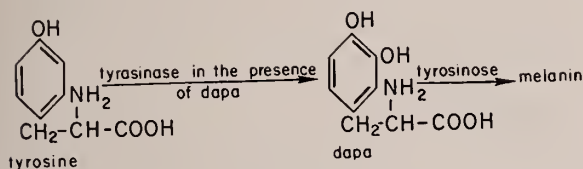
With this background in mind, let us examine some of the knowledge regarding copper enzymes and other copper proteins.

COPPER CONTAINING ENZYMES

A. Tyrosinase (*Polyphenol oxidase*)

One of the important functions of trace elements

is their role in enzyme systems. Tyrosinase is widely distributed in nature being involved in the hardening of insect cuticle, the dark color of the ink produced by the squid,³¹ darkening of plant tissues upon injury, pigmentation in melanomas and many other pigmentations in nature.²⁷ It has, probably, a molecular weight of 100,000 and contains 0.25% copper or four atoms of copper per molecule.²¹ It functions as follows:



Formula I

Copper is essential to this enzyme system and cannot be replaced by other metal ions.⁴⁸ Tyrosinase is not necessary for dopa to be converted into melanin, for the oxidation proceeds at a slow rate spontaneously. Cupric ion, added to the system, will increase the rate. Plasma proteins, in addition to the cupric ion, further increase the rate. The process is greatly accelerated, however, in the presence of tyrosinase.⁵⁵

B. Laccase

This is a copper oxidase found in plants, blue in color and having only slightly different substrate specificities from tyrosinase.²¹

C. Uricase

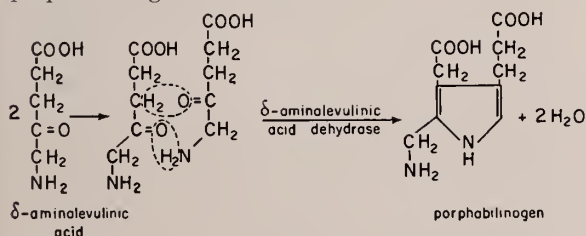
This enzyme with a molecular weight of 110,000 and 0.06% copper, links copper with purine metabolism. The substrate is uric acid.³¹ It is found in many mammals but not in man.

D. Butyryl CoA Dehydrogenase

This is a deep brilliant green cuproflavoprotein containing 1.2% riboflavin and 0.35% copper. The molecular weight is 120,000-220,000. It is the first copper protein described with dehydrogenase function. It catalyzes the first step in the oxidation of lower fatty acids with three to eight carbon atoms.³¹

E. Δ -Aminolevulinic Acid Dehydrase

This enzyme, which contains 0.1% copper, catalyzes the reaction by which two molecules of Δ -aminolevulinic acid are joined to form a molecule of porphobilinogen⁴¹ as follows:



Formula II

Copper has long been known to play some fundamental role in erythropoiesis and the discovery of copper in this enzyme at least partially defines the role of copper in the production of all heme compounds.

F. Ascorbic Acid Oxidase

This is a blue green copper enzyme found in plants.²⁷ Its molecular weight is 150,000 and it contains 0.26% copper or six atoms per molecule.²⁰ The color changes to yellow when oxygen is excluded. The blue green color returns when, in solution, it is shaken in air. It is suggested that the blue green substance is a cupric protein oxygen complex while the yellow substance is a cuprous protein complex. Copper is tightly bound in the cupric state as no exchange with radioactive copper occurs.²⁰ Exchange with radioactive copper will occur when the enzyme is functioning.²⁰ The portion of the molecule of ascorbic acid acted on by ascorbic acid oxidase is identical to the portion of the molecule of dopa acted on by tyrosinase. In both an ene-diol structure is oxidatively converted to a diketone structure.²⁰ However, the similarities of the copper containing enzymes are not confined to similarities of substrate. Many of these enzymes have a blue or green color which may fade when the enzyme functions. In general, chemical inhibitors of one copper enzyme inhibit all copper enzymes. Molecular oxygen is utilized in the functioning of most of the enzymes. All of these properties appear to be intimately associated with the presence of copper in the enzymes and with its shift in valence state involving electron transfer.

G. Cytochrome Oxidase

There is evidence that this enzyme, the terminal oxidase of the cytochrome system, contains functionally active copper.³⁰

MAMMALIAN COPPER PROTEINS WITHOUT KNOWN PHYSIOLOGIC FUNCTION

A. Ceruloplasmin

Ceruloplasmin is a blue protein isolated from pig and human serum which Holmberg and Laurell described in 1948.³⁸ It is an α_2 globulin³¹ with a molecular weight of 151,000 and contains eight copper atoms in each molecule. It is reduced by ascorbic acid and other reducing substances to a colorless compound. This reaction is reversible in the presence of oxygen.³⁸ It is suggested that this change represents a change in the valence of copper

from two to one.⁶³ In the colorless (cuprous) form radioactive Cu⁶⁴ will replace at least one half of the copper in ceruloplasmin.⁶³ As discussed above, this is apparently due to instability of the cuprous chelate bonds in comparison with the cupric.

The function of ceruloplasmin *in vivo* is not known. *In vitro* it has been shown to catalyze the oxidation of *p*-phenylene diamine, benzidine, adrenalin, dopa,³⁹ and serotonin.³ The oxidase activity of serum is well correlated with the ceruloplasmin content.³⁹

B. Other Copper Proteins

Hepatocuprin is a blue protein with a molecular weight of 35,000 found in the liver. It has a copper content of 0.34%.¹⁰ Erythrocuprin (red cells) has a molecular weight of about 33,000 with two atoms of copper per molecule. Human erythrocuprin forms nearly colorless bluish green solutions and accounts for virtually all the normal erythrocyte copper. It is immunologically distinct from ceruloplasmin.⁵³ Milk copper protein has been found to have a copper content of 0.19%.¹⁰ Recent studies indicate that the brain may contain a copper protein or proteins.⁵⁸ Sulfhydryl groups bind copper strongly and when this occurs the copper which appears may not be a functional part of the proteins involved.

COPPER METABOLISM IN THE NORMAL HUMAN SUBJECT

A. Absorption

Approximately 3-5 mg. of copper are ingested by the adult working man daily²⁹ which is more than sufficient to cover his probable requirement of two mg. per day.¹⁶ A small portion of the copper, about 25-30% normally,^{31,75} is absorbed and this occurs in the upper part of the small intestine.²⁹ Various dietary substances forming complexes with copper affect the absorption.³¹ The mechanism of copper absorption is not known.

B. Copper in the Blood

Copper is found in the plasma in two fractions commonly designated as the direct and indirect reacting fractions.³³ The direct fraction accounts for only approximately 5% of the plasma copper. Copper administered either orally or intravenously first appears in this fraction and later becomes converted into indirect reacting copper. Direct reacting copper is copper loosely attached to serum albumin while indirect reacting copper (95% of plasma copper) is the copper found in ceruloplasmin.³¹ The average

normal value for plasma copper is about 116 ug. per 100 ml.³¹ Plasma copper values are higher in women than in men.⁶⁰

The red cells also have a labile and stable fraction of copper. The labile fraction is in equilibrium with the direct reacting plasma fraction.³¹ If there is a deficiency of copper the red blood cells have proportionally more copper than the plasma.¹ This suggests that the function of copper in the erythrocytes may be of more importance to the organism than the plasma copper.

C. Storage

The liver is the most important organ of storage for copper. It normally contains about 18 mg.²⁹ of the body's estimated 100-150 mg. total copper content.¹⁶ Other organs containing high concentrations of copper are the brain, kidney,²⁹ and prostate.⁴³

D. Excretion

Copper is excreted via the bile, small intestinal mucosa, and urine—listed in descending order of importance.⁴⁹ Unlike iron, copper balance is maintained by an adjustment in the excretion rate. This is probably true only within certain limits.³¹

E. Childhood and Infancy

At birth, blood copper levels are quite low due to low ceruloplasmin levels.⁶¹ Ceruloplasmin is produced slowly in infancy⁴⁴ possibly attributable to immature liver function. The direct fraction appears to be in equilibrium with the maternal direct reacting plasma copper fraction at the time of birth.⁶¹ The infant's liver copper is five to ten times the adult concentration.³¹ This, presumably, serves to tide him over the period of milk feeding since milk is quite a poor source of copper.⁴⁴

F. Menstruation and Pregnancy

The level of serum copper at various stages in the menstrual cycle can be correlated with the excretion of estrogen and other hormones.⁷³ In pregnancy, plasma copper is elevated, especially in the third trimester. This increase is largely due to an increase in the indirect fraction.³³ Erythrocyte copper is unchanged.⁴⁵

The changes in copper metabolism which occur with menstruation and pregnancy can at least be partially explained by the elevating effect of estrogen on serum copper. Several investigators have shown that the administration of estrogen^{60,73} raises the serum copper to high levels in both men and women. This same effect probably also accounts for the nor-

mally slightly elevated plasma copper levels of women as compared with men.

COPPER EXCESS AND DEFICIENCY

A. *Acute Copper Poisoning*

In animals, copper poisoning causes different changes in different species. There is evidence of an acute hemolytic process in most with a reticulocytosis, drop in hemoglobin and erythrocytes, and hemoglobinuria. In the hepatic and renal cells pigmentation and necrosis occur.⁵¹

In man, copper rarely gives rise to poisoning because the salts have a harsh metallic taste, the emetic action promptly empties the stomach, and the lethal dose is relatively high (probably about 15 grams for copper sulfate.) The symptoms of acute ingestion of copper salts include pain, emesis, diarrhea, headache, and shock proceeding to delirium, convulsion, paralysis, coma and death. Physiologically there occurs widespread capillary damage, kidney injury, and central nervous system excitation followed by depression.^{24,28} The treatment consists of gastric lavage, supportive and symptomatic therapy, and BAL in severe cases.²⁸

B. *Chronic Copper Poisoning*

Copper poisoning in rabbits causes hepatic pigmentation and cirrhosis if the dose is large enough and extended over a sufficient period of time. Other organs are also involved. The doses required to produce these changes are quite large. If moderate doses are given the animals assimilate the copper with no injurious effects.^{36,50,51}

In man, the occurrence of chronic copper poisoning has not been established.²⁴

C. *Copper Deficiency*

In animals, copper deficiency causes a multitude of conditions which vary with the species. Ataxia, alopecia, reduced reproductive capacity, diminished pigmentation, or dermatosis can occur, but most notable is anemia and osteoporosis.^{19,29,31}

There has been considerable dispute as to whether copper deficiency ever occurs in human beings.^{31,44} It has been stated that man would probably die for lack of calories first.⁴⁴ Nevertheless, there is evidence that in some infants on milk diets for protracted periods of time with the exclusion of practically all other foods, a syndrome of multiple deficiencies occurs. Among them is a copper deficiency which is apparently not secondary to any others.^{47,66} All such children studied had marked pallor and peripheral edema, particularly of the eyelids.^{47,66}

Two had osteoporosis.⁴⁷ Laboratory studies revealed, among other things, a microcytic hypochromic anemia, hypoferremia, hypocupremia, increased free erythrocyte protoporphyrin, and low serum proteins with reduction of both fractions.^{47,66}

The hypocupremia, not secondary to the hypoproteinemia, can be corrected with oral copper sulfate independent of the other deficiencies, or can be partially corrected with iron therapy alone. All of the deficiencies may be corrected simultaneously with an improved diet.^{47,66}

In swine, iron metabolism is altered considerably in copper deficiency anemia. There is impaired absorption of iron from the alimentary tract and even parenterally administered iron in large amounts fails to overcome the anemia.^{34,46} Previously, it was thought that copper deficiency interfered with the absorption, transportation utilization, and storage of iron.^{29,46} However, it has since been shown, by the use of radioactive iron, that the anemia of copper deficiency is caused by a hemolytic process in which the erythrocyte life span is shortened to about one fifth the normal value. The plasma iron turnover and the amount of iron incorporated into erythrocytes daily is increased. It is suggested that the anemia results because defective cells are not able to endure the normal stresses on a cell in circulation, and red cell production cannot be increased sufficiently to compensate for this destruction.¹⁰ The defect in the red cells is partially corrected by injection into a normal animal.³¹ Impaired function of the enzyme Δ -aminolevulinic acid dehydrase only partially explains these phenomena.

COPPER METABOLISM IN VARIOUS PATHOLOGICAL CONDITIONS

A. *Anemias of Various Types*

Plasma copper is elevated in the anemias of infection and acute hemorrhage, iron deficiency anemia (man)¹³, sickle cell anemia, aplastic anemia and thalassemia.⁴⁵ It is increased slightly in pernicious anemia.⁴⁵ It is normal in the anemia resulting from lead poisoning⁵⁰ and in the iron deficiency anemia of pigs.¹³ It is slightly decreased in pyridoxine deficiency anemia.¹³ It is significantly reduced in copper deficiency anemia^{46,47} and in the anemia secondary to protein deficiency.¹³ There appears to be some correlation between the plasma copper and erythrocyte protoporphyrin in these conditions which is not surprising in view of the action of the copper enzyme Δ -aminolevulinic acid dehydrase. The significance of the changes in copper

metabolism in the various anemias is not well appreciated at the present time.

B. Infections

Plasma copper increases significantly in acute and chronic infectious diseases while erythrocyte copper is unchanged.⁴⁵ This increase is quite sensitive occurring even in mild infections⁹ and is well correlated with an increased sedimentation rate and positive C—reactive protein.⁴⁰ The rise occurs soon after the onset of infection, is not correlated with the duration of the illness or the presence or absence of anemia, and drops promptly after the infection subsides.^{9,45}

C. Central Nervous System Diseases

Interest in the role of copper in central nervous system diseases arose after the demonstration that certain demyelinating diseases in lambs such as enzootic ataxia, found in western Australia, and swayback, found in Great Britain and other countries, were due to copper deficiency. With the exception of Wilson's disease attempts to link copper with various CNS diseases have been unfruitful.⁵² Patients with schizophrenia have a slightly increased serum copper.⁴⁰

D. Liver Disease

In Laennec's cirrhosis there is an increase in the serum copper, the copper concentration of the liver, the serum ceruloplasmin, the urinary copper, and the cerebrospinal fluid copper.^{5,18,32,56} These changes represent the *average* since specific changes may occur in less than half of the subjects under study. In biliary cirrhosis the serum copper, hepatic copper, urinary copper, and ceruloplasmin increase to a considerably greater extent than they do in Laennec's cirrhosis.^{5,32} Circulating estrogens which are high in liver disease, may partially account for these elevations. The factor of obstruction to the flow of bile, a major route of copper excretion, appears to be more important. In animals with surgically ligated bile ducts the copper content of urine rises and hepatic copper increases greatly.⁴⁹ In patients with Laennec's cirrhosis who had an associated cholangiolitis the hepatic copper was greatly elevated. In fact, no increase was found without some degree of cholangiolitis.³²

At one time, hemochromatosis was thought to be due to copper intoxication because of the pigmentary cirrhosis produced in animals by chronic excesses of this metal.⁵⁰ This view is no longer tenable. Serum

copper is elevated, however, in some of these patients.⁴⁵

E. Kidney Diseases

Plasma copper is low in the nephrotic syndrome due to a loss of ceruloplasmin in the urine. The erythrocytes have reduced copper but the anemia does not respond to treatment with this element. Plasma copper is normal or high in uremic patients.¹¹

F. Wilson's Disease

Wilson's disease is an inborn error of metabolism³ inherited as an autosomal recessive⁴ and is characterized clinically by one or more of the following:

- (1) Kayser-Fleischer rings
- (2) neurological disturbances
- (3) cirrhosis of the liver
- (4) altered renal function
- (5) osseous changes^{3,6,25}
- (6) hyperpigmentation^{6,8,25}
- (7) azure lunulae⁶

Biochemical and physiological changes which occur are:

- (1) decreased serum ceruloplasmin^{12,62} with resulting decreased oxidase activity of the serum^{8,15} and decreased plasma and whole blood copper⁸
- (2) increased direct reading plasma copper⁸
- (3) increased copper absorption from the intestine⁵⁴
- (4) decreased copper in the stool^{18,15,54}
- (5) increased copper deposits in the tissues, especially the liver^{18,56} brain^{18,56} and kidneys⁸
- (6) positive copper balance¹²
- (7) increased urinary copper^{8,52}
- (8) other urinary changes—aminoaciduria,^{5,8,70} glycosuria,^{5,8} peptiduria,⁷⁰ increased phosphate and uric acid excretion,¹⁴ and other abnormalities⁷

Many *theories* have been advanced to explain the various changes in Wilson's disease. Bearn³ has summarized the thinking of the two major schools. One school of thought proposes that the abnormal gene functions to produce proteins with increased affinity for copper.⁷¹ The aminoaciduria and peptiduria are results of incomplete metabolism resulting from these abnormal proteins and are primary in the disease.⁷⁰ Increased copper absorption occurs as a result of increased binding of copper by the intestinal mucosa.⁷¹ Ceruloplasmin is decreased because copper is diverted to tissues with increased affinity for the metal. Copper is excreted in excessive quan-

tities in the urine because it is chelated with peptides and amino acids.⁶⁸ Objections to this hypothesis are:

- (1) Aminoaciduria does not occur in all patients with Wilson's disease and is apparently a secondary feature.³
- (2) The occurrence of peptiduria has not been confirmed.³
- (3) It does not explain how manganese intoxication in man gives a syndrome similar to Wilson's disease.⁶⁷ (This syndrome, however, has not been duplicated in animals.³⁵)

The other main school of thought proposes that decreased ceruloplasmin is the primary defect—in other words, the direct result of the abnormal gene. The decreased ceruloplasmin causes the copper to attach to serum protein. The copper which is bound to albumin remains at high levels, is deposited in the tissues, and is excreted in the urine in greater than normal amounts. The deposition of the copper in the kidneys results in damage similar to that precipitated by other heavy metals and accounts for the other urinary changes. This hypothesis, however, fails to explain, among other things:

- (1) How depressed ceruloplasmin increases copper absorption³ although it has been proposed that ceruloplasmin releases copper in normal individuals at the site of absorption, thus keeping the gradient higher in the blood and preventing overabsorption.⁶³
- (2) Why the severity of the disease is not correlated with the ceruloplasmin level. Estrogen administered to patients with the disease will raise the ceruloplasmin levels to normal in some cases with no apparent improvement.³
- (3) Why copper administration in animals fails to give a syndrome resembling Wilson's disease.³ In view of the large amounts of copper that can be handled by animals in experimentation of chronic intoxication with no detrimental effects,⁵¹ it is hard to see how any hypothesis assuming only increased absorption can be correct.

Kayser-Fleischer rings are found in 90 per cent of patients with Wilson's disease³ and are pathognomonic of the condition.²⁶ These rings circle the cornea at the limbus and vary in color from golden brown²⁶ to greyish-green.³ They may occur in the absence of neurological or abdominal findings.⁶⁴ They have been shown to contain copper and other metals.^{23,72} The copper is not just deposited as copper salts. On the contrary, the color is apparently due

to physical properties and is determined by the number of layers, the thickness of the zones, the particle size and density, and possibly other factors.⁷² It is claimed that deposition of copper occurs secondarily to a pre-existing anomalous matrix in Descemet's membrane.⁶⁹ The rings, however, become more transparent or change color under dimercaprol therapy.^{22,25}

In the *brain* there is an increased percentage of loosely bound copper in Wilson's disease⁵⁸ and the clinical condition of the patient, from the neurological point of view, improves on BAL treatment. With discontinuance of therapy the patient will become worse only to improve again on retreatment.²² Copper in minute quantities has been shown to disturb the function of nervous tissue.³⁷ These facts indicate that in the brain copper acts as an intoxicating agent.

In the *liver*, on the other hand, copper is only found in the hepatic cells and not in stromal or Kupffer cells,^{14,56,69} whereas in chronic copper poisoning in animals Kupffer cells are active in engulfing copper and form giant cells for this purpose.³⁶ The copper deposited in the liver in Wilson's disease has an unequal distribution in the various lobules, and an abnormal protein fraction has been identified electrophoretically, which has an increased affinity for copper.^{69,71} Here, copper does not appear to be acting primarily as a toxic agent.

In the *kidney* the changes which occur resemble quite closely those of Fanconi's syndrome. There is altered tubular function, decreased glomerular filtration rate, decreased renal plasma flow, a slightly increased filtration fraction, increased urine pH, aminoaciduria with a characteristic pattern, glycosuria, impaired phosphate reabsorption with increased phosphate excretion, increased uric acid excretion, and proteinuria associated with protein casts.^{3,7} Some aspects of the urinary changes are of the type caused by lead poisoning,⁸ and the best explanation for the changes observed is that copper interferes with essential enzyme systems which are responsible for the transportation of materials across the tubular membrane.⁷ The brunt of the damage falls on the proximal tubule initially and this results in defective transport of phosphate, amino acids, glucose, and urate. Later, other functions are disturbed as evidenced by alkaline urine and decreased glomerular filtration rate.⁷

The *osseous changes* of Wilson's disease include spontaneous fractures, osteomalacia, degenerative changes and bone fragmentation. While the increased

renal phosphorous excretion is considered important in their production, other factors probably enter into the etiology.³

The best explanation for the *hyperpigmentation* is that the increased direct reacting copper increases the production of melanin by processes previously described in the section dealing with tyrosinase.

Azure lunulae is an unusual blue pigmentation of the lunula of the fingernail, found rarely in patients with Wilson's disease. Increased copper content of the nails has not been incriminated as the cause of this interesting sign.⁶

Various *types of therapy* for Wilson's disease have been tried. The chelating agents, BAL,^{3,8,22,26} EDTA,^{5,8,26} and penicillamine,^{2,26,74} have received the most extensive trials. Exchange resins⁷⁵ and potassium sulfide^{8,12,26} have been given to prevent copper absorption from the gastrointestinal tract. Molybdenum, which antagonizes copper and causes a deficiency of it in animals is of little benefit in the treatment of Wilson's disease.⁸ Amino acids,¹² which increase copper excretion,^{4,68} and also cortisone,⁵ ceruloplasmin,⁸ and estrogens³ have been used. Only the chelating agents seem to be of any real value although some other agents, particularly potassium sulfide, may be useful adjuncts. The chelating agents appear to be effective where appropriate blood levels can be maintained without untoward effects. For this reason penicillamine is best^{2,26}—it is orally effective and has the least side effects.

The ultimate explanation of the mechanisms acting in Wilson's disease will, in all likelihood, incorporate principles from both of the two leading theories. The factor of diminished excretion of copper by the intestinal mucosa and liver remains as another possible explanation for the positive copper balance. This has been suggested and dismissed¹² but hardly seems adequately ruled out. In view of a report of low bile copper in a patient with Wilson's disease,⁸ this may at least be a factor.

G. Miscellaneous Conditions

Serum copper has been reported to be high in polycythemia vera, Addison's disease, various collagen diseases, diabetes, hyperthyroidism, malaria, arsenic poisoning and various malignancies, especially the lymphomas.^{9,45} Quite high values have been reported in acute leukemia and Hodgkin's disease.⁴⁵

In pregnant women with pruritis serum copper values were found to be higher than in comparable pregnant women without pruritis.⁷³ Hypercupremia

occurs in several diseases in which pruritis may be a marked feature. These include diabetes, the lymphomas and biliary cirrhosis. In the latter two hyperpigmentation may be present as well.

COPPER AS THERAPY

Copper has been used for centuries as a medicinal agent.⁹ In modern medicine it has little place in therapy. Although it is necessary for erythropoiesis, its routine use in anti-anemic preparations cannot be recommended. It may justifiably be used in the rare case of anemia in infants in whom hypocupremia is present.

The development of certain experimentally produced liver tumors appears to be retarded by dietary copper salts.^{57,65} The main effect of the copper in these studies seems to be the destruction of the carcinogens. No evidence is available for the use of copper in cancer chemotherapy.⁴²

SUMMARY

(1) A consideration of the physical properties of the copper atom, its valence changes, and its formation of chelate bonds is essential to an understanding of the chemistry of copper enzymes and proteins. These features probably explain how copper can be so tightly bound in the blue forms of ceruloplasmin and ascorbic acid oxidase and loosely bound in the colorless forms. In all likelihood this same knowledge will prove useful in the ultimate explanation of the apparent tight binding of copper by some tissues in Wilson's disease. A small change in a protein structure could easily disturb the oxidation or reduction of copper ions.

(2) Copper proteins with known *in vivo* enzymatic function in mammals are tyrosinase, uricase, butyryl Coenzyme A dehydrogenase, Δ -aminolevulinic acid dehydrase and possibly cytochrome oxidase. Other copper proteins without known physiologic action have been isolated.

(3) Copper is absorbed in the upper intestinal tract and excreted principally via the bile. The erythrocytes and the plasma both contain copper which is tightly and loosely bound. The tightly bound plasma copper is synonymous with the ceruloplasmin copper. The chief organ of copper storage is the liver.

(4) Acute copper poisoning in man rarely occurs because of the emetic action of copper and because the lethal dose is relatively high. Chronic copper poisoning in man is unrecognized.

(5) Copper deficiency never occurs in man with

the possible exception of certain infants on milk diets who demonstrate a multiple deficiency syndrome.

(6) Blood copper is high in pregnancy, infections, certain anemias, some cases of collagen disease and hemochromatosis, in most cases of liver disease, in various malignancies, and in numerous other diseases. Blood copper is low in infants and in patients with the nephrotic syndrome, Wilson's disease, the anemias of copper deficiency and protein deficiency, and possibly in sprue.

(7) Wilson's disease has been the object of considerable investigation for the past decade as the result of the discovery of the role of copper in the disease. Numerous theories have been advanced in an attempt to explain the various clinical and biochemical abnormalities, none of which have proven satisfactory. It is likely that future theories will combine, in some fashion, features of several of the explanations most seriously considered at the present time.

(8) Copper plays a very small role in the therapy of disease.

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Alpha Chymotrypsin in Cataract Surgery

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TO JOAQUIN BARRAQUER,¹ credit is given for discovery of the practical use of a-chymotrypsin proteolytic enzymes in cataract extraction. For some time Barraquer has been attempting to obtain zonulotomy by chemical means. In recent years he has demonstrated in controlled animal and human studies that alpha chymotrypsin, when injected in the anterior chamber of the eye, exerts a lytic action on the zonules. This makes the removal of the lens intracapsularly with considerable ease and reduces the complications to a minimum. Another distinct advantage is that it can be used in young individuals and in some cases in children. However, at the present time he does not advise this use in children under ten years of age, as they are likely to have vitreous loss. He made some careful studies and enucleated a human eye six hours after death. He used alpha chymotrypsin in solutions of different strengths varying from 1:5,000 to 1:50,000 and did control studies with physiological saline. Solutions of 1:50,000 proved to have ineffective zonule lysis properties.

RESULTS AND CONCLUSIONS OF BARRAQUER'S WORK

In over two hundred cases, Barraquer demonstrated in controlled studies that alpha chymotrypsin is capable of lysing zonules without adversely affecting the hyaloid membrane, lens capsule or other intraocular structures. The post operative course has always been uneventful and there have been neither inflammatory reactions in the surrounding tissues nor any changes in the transparent elements.

DESCRIPTIONS OF PRODUCT

Alpha chymotrypsin is a proteolytic enzyme obtained from the bovine pancreas. Alpha chymotrypsin, as CHYMAR, was introduced by the Armour Pharmaceutical Company as an anti-inflammatory agent for systemic use and for use in such ophthalmic diseases as conjunctivitis, uveitis, retinitis and to hasten the absorption of hematomas of the periorbital tissues.

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Presented at the meeting of the Virginia Society of Ophthalmology and Otolaryngology, Charlottesville, April 30-May 1, 1959.

TECHNIQUES OF OPERATION AS DESCRIBED BY BARRAQUER

- (1). He suggests lavage with 1 c.c. of a 1:5,000 chymotrypsin solution under the iris inferiorly.
- (2) Peripheral or complete iridectomy.
- (3) Lavage with 1 c.c. of solution through iridectomy. Wait at least two minutes and then irrigate the anterior chamber with 2 c.c. of physiological saline solution. The extraction is done with erisophake and then he suggests lavage with acetylcholine to contract the pupil. If the zonules are still intact, lavage with additional 1 c.c., wait an additional two minutes, irrigate with 2 c.c. physiological saline and reapply erisophake instrument.

MATERIAL

The preparation which we have used since December 29, 1958, was obtained through Armour and Company. From the first operation up to the present time, twenty-nine patients for cataract extractions were subjected to the procedure in which chymotrypsin was used intraocularly in a concentration of 1:5,000. The patients' ages varied from twenty to ninety-two years of age. We are not using this preparation on any patient under ten years of age. After the preliminary preparation of the patient with sedation, with akensia and retrobulbar injection, and topical application of pontocaine, we make a conjunctival flap of 180 degrees 3 mm. from the limbus. After making the keratome incision, we enlarge the incision for 180 degrees and place three sutures at three o'clock, nine o'clock and twelve o'clock through the cornea and sclera using 6-0 chromic catgut. We do not perform an iridectomy or iridotomy. After raising the cornea with a traction suture, the solution flows over the entire surface of the lens. The pupil is well dilated and permits a great amount of enzymes to reach the zonule portion of the lens. If there is any question as to whether the solution has reached every portion of the anterior chamber we do not hesitate to use an additional amount with a medicine dropper endeavoring to reach the zonular surface above.

RESULTS

Twenty-nine patients were subjected to cataract surgery in which a-chymotrypsin was used intra-

ocularly. In twenty-five out of twenty-nine cases, the lens was delivered intracapsularly. Four failures resulted from rupture of the lens capsule before extraction was attempted. Thomas-Dimitery erisophake and the sliding method was employed.

COMMENT

In order to obtain the best result, the eye should be reasonably soft prior to surgery. In hypertonic eyes, the pressure should be reduced by the use of Diamox intravenously prior to surgery. It is most important to have a well dilated pupil which allows the enzymes to reach the posterior chamber thus accelerating the degree of zonulolysis. Wound healing is at normal rate. The only reference reviewed on this subject in the American literature is an excellent article by A. Benedict Rizzuti² in the Archives of

Ophthalmology, Vol. 61, January, 1959. The success we have had in a limited number of cases leads us to feel that this preparation will serve as a valuable adjunct to the ophthalmic surgeon who is performing intracapsular cataract extractions.

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3. Personal correspondence with Troutman, Richard, New York City, New York.

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Caution When Giving Antibiotics

A government scientist has urged physicians to take great care when administering antibiotics. Henry Welch, Ph.D., said that between 17 and 20 million persons in the United States may be allergic to large doses of the drugs and react unfavorably.

His report appears in the August 22 Journal of the American Medical Association.

Dr. Welch, who is director, division of antibiotics of the Food and Drug Administration, feels that the danger of persons receiving too many antibiotics has been increased by the use of the drugs in fields other than medicine.

"There are now over 400 preparations of antibiotics available for clinical use, and they run the gamut of injectables, ointments, powders, sprays, capsules, syrups, ear and eye drops, suppositories, troches, and tablets."

Also the drugs are being used in animal nutrition for promotion of growth in swine, chicks, and poults, as well as being employed as crop sprays to prevent

blight in apples, pears, walnuts, and beans.

"Antibiotics have saved tens of thousands of lives in the past 15 years, and the reduction in the rates of mortality, morbidity, and complications of diseases has affected the lives of millions.

"Nevertheless, with such major advances in therapy and consequent wide use, unfortunately we have to face the accompanying untoward side-reactions that invariably follow."

He pointed out that normally these side-effects are not too severe but can be uncomfortable. They run the range from mild rashes, asthmatic attacks, and in some instances to fatal shock.

The scientist said that the Food and Drug Administration along with other agencies have taken steps to alleviate this problem as it pertains to direct and indirect injection of antibiotics in foods.

It is, he concluded, up to the physician to take proper steps in administering the drugs in order to avoid these unfavorable side-reactions.

Complete A-V Block in Acute Rheumatic Fever

A Case Report

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AN UNUSUAL CARDIAC EMERGENCY in an 18 year old, white male, prompted a review of the literature on the subject of complete A-V Block in acute rheumatic fever. We were surprised to find that such a case has not been mentioned in the recent clinical monographs on this subject. In a recent review by Penton, Miller and Levine¹ on the clinical features of complete heart block, not one case is listed in association with acute rheumatic fever in any age group. In addition Rowe and White² have also presented a comprehensive report on 278 cases of complete A-V Block, and in no instance has this finding been concomitant with acute rheumatic fever. In Massell's³ recent article on the clinical picture of acute rheumatic fever, including an analysis of 457 initial attacks, complete A-V Block is not listed as a clinical finding in any instance.

The controversial status of adreno-cortical hormone therapy in acute rheumatic fever is well known. In view of some well documented reports on the treatment of complete A-V Block by steroids, it seemed that this particular manifestation of acute rheumatic fever would respond dramatically to adequate steroid schedules. This proved to be the case in the following cardiac emergency:

CASE PRESENTATION

M.C., an 18 year old, white male, student was referred to one of us (S.A.T.) for further medical diagnosis and treatment following the onset of syncope while eating in the school cafeteria. The school physician noted a heart rate of 30/per minute, and the student was hospitalized for further observation. An electrocardiogram taken 3-13-58 at 9:30 P.M. (Fig. 1 A.) revealed A-V Dissociation with ventricular rates of 98/min. and atrial rates of 97/min. Shortly thereafter a diffuse erythematous morbilliform rash over the chest was noted, and a diagnosis of measles was made. The student was transferred home to Arlington for further medical care.

On March 15, 1958, he was seen at his home in shock with a pulse rate of 30/min. Adrenalin 0.5

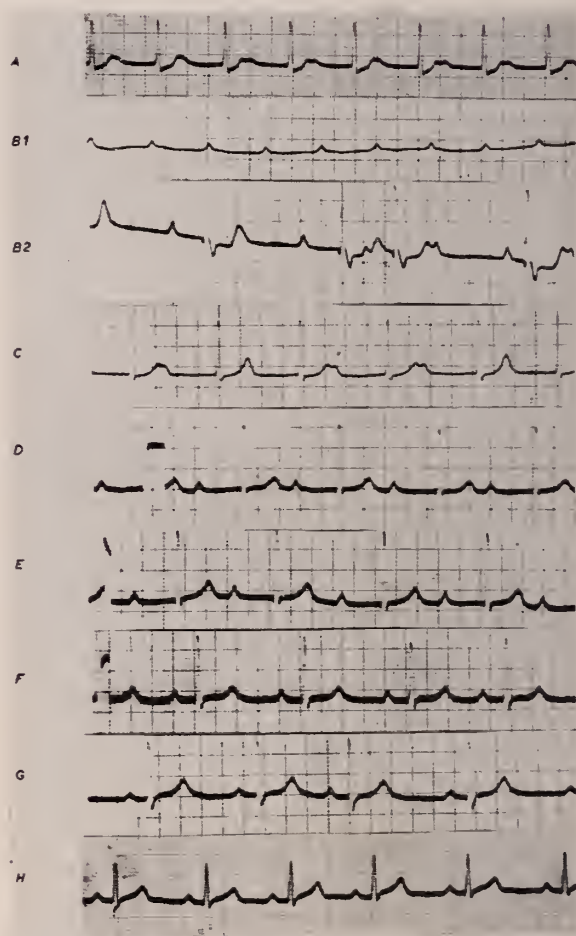


Figure 1:
A: 3-13-58 - Lead II - A-V dissociation.
B1: 3-15-58 - Lead II - Ventricular asystole.
B2: 3-15-58 - Lead II - Complete A-V Block.
C: 3-16-58 - Lead II - A-V dissociation.
D: 3-18-58 - Lead II - NSR - PR interval 0.44 sec.
E: 3-19-58 - Lead II - NSR - PR interval 0.40 sec.
F: 3-21-58 - Lead II - NSR - PR interval 0.24 sec.
G: 3-25-58 - Lead II - NSR - PR interval 0.20 sec.
H: 3-30-58 - Lead II - NSR - PR interval 0.19 sec.

c.c. of 1:1000 was given hypodermically, and the patient was immediately hospitalized.

Physical examination:

On admission physical examination revealed a well developed, well nourished, 18 year old, white male in shock manifested by pallor, sweating, restlessness and apprehension. Positive findings were

limited to the following: T. 98.4°; P. 30/min; R. 34; B.P. 90/20. Periodic ventricular asystole was observed correlated with transient periods of confusion and disorientation.

1. Cardiac findings were confined to variation in the intensity of the first heart sound at the apex. No murmurs were audible at this time. There was no cardiac enlargement to percussion.

2. Extremities: The right ankle and right knee were warm, swollen and tender. The left knee was painful on motion but there were no objective joint changes. No subcutaneous nodules or rash were present at this time.

On the initial electrocardiogram at Arlington Hospital, a complete A-V Block was observed with long periods of cardiac asystole. (Fig. 1 B1 & B2) While awaiting the initial observations, the patient was started on 50 mgm. of I-V Neosynephrin in 500 c.c. of 5% glucose in distilled water. Following further cardiac consultation, I-V cortico-steroid therapy was instituted. Previous measures consisted of Adrenalin, Neosynephrin and Isuprel as required to maintain a systolic blood pressure of about 100 mm. of mercury.

Hydrocortisone, 200 mgm., was administered intravenously over the next six hours followed by prednisolone 15 mgm. every six hours over the next week. Within 12 hours of initiation of I-V Hydrocortisone, A-V Dissociation with a heart rate of 72/min was recorded on the next electrocardiographic study. (Fig. 1 C.) At this time, fever and polyarthritides were present in addition to the dramatic manifestations of Carditis.

Initial laboratory data:

Blood studies:

Hematocrit = 45; Hemoglobin = 13.2G.; WBC = 22,300; P. = 80%; L. = 14%; M. = 6%; C-RP = 4+; A.S.T. = 333 Todd units; S-GOT = 450 units; V.D.R.L. = negative.

Urinalysis:

Specific gravity = 1.028; Albumin = ++++; Sugar = negative. Microscopic: 2-4 WBC; 1-3 RBC; 4-5 finely granular casts/HPF.

Throat culture:

B hemolytic Streptococci; Alpha hemolytic Streptococci and Neisseria catarrhalis.

Course in hospital:

The polyarthritides subsided within two days of the institution of steroid therapy. The temperature curve returned to normal on the second day, and shock and complete A-V Block did not recur after

the first 10 hours. A tracing taken on March 18, 1958, (Fig. 1 D.) revealed a return to normal sinus rhythm, but first degree A-V Block was manifest by a P-R interval of 0.44 sec. Otherwise, the tracing was not remarkable. By March 21, 1958, (Fig. 1 F.) the P-R interval was 0.24 sec. During this period the serum transaminase fell from 450 units to 59 units. By March 21, 1958, the WBC had dropped to 12,500, but the sedimentation rate continued to remain at 30/min. Subsequent urinalyses proved to be normal on recovery from the shock state.

On March 24, 1958, a grade iii apical, systolic murmur was noted for the first time. A chest x-ray on March 26, 1958, was described as normal, there being no evidence of alteration of the cardiac silhouette.

The patient was discharged on March 28, 1958, on prednisolone 10 mgm. every six hours, and this was very gradually reduced until the time of discontinuance on May 1, 1958, representing a total treatment time of six weeks. Oral penicillin for prophylaxis was continued after discharge from the hospital. His tolerance of this therapy appeared to rule out penicillin hypersensitivity as a cause of his initial rash.

A follow-up examination on March 30, 1959, revealed no evidence of rheumatic fever residuals or persistence of rheumatic activity. Physical examination was essentially negative. No cardiac murmurs were audible. Chest x-ray and electrocardiogram (Fig. 1 H.) were well within normal limits.

DISCUSSION

It appears to us that the diagnosis of acute rheumatic fever in this case was incontrovertible. Two major manifestations were present along with fever, leucocytosis, elevated sedimentation rate and S-GOT, 4+ C-RP, positive throat cultures and moderately positive ASL Titers. In treating the acute cardiac emergency Adrenalin, Isuprel and other vasopressors were of only temporary value. Complete A-V Block persisted until the administration of I-V Hydrocortisone which probably averted a fatal outcome. It is highly unlikely that a spontaneous remission would occur this quickly in the early phase of acute rheumatic fever. The drop in S-GOT was extremely interesting. The simultaneous disappearance of fever, acute polyarthritides and dramatic general improvement in the patient was primarily attributable to steroid therapy. It is also noteworthy that no rebound occurred with extremely gradual withdrawal of prednisolone. The one year follow-up revealed no resid-

uals of acute rheumatic fever, and the patient was clinically well. It may well be that an early diagnosis made possible by the Stokes-Adams-Morgagni attacks had resulted in a much earlier application of this type of therapy. This may also have been a factor in the excellent results.

SUMMARY

1. A case of acute rheumatic fever presenting as a Stokes-Adams-Morgagni Syndrome is described and its rarity emphasized.

2. An excellent therapeutic result was achieved by the early administration of adreno-cortical hormones

with a dramatic disappearance of the complete A-V Block.

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Better Medicolegal Relations

Revision of the law to keep pace with scientific and medical progress has been called for by a California specialist in legal medicine.

Writing in the October 10th *Journal of the American Medical Association*, Dr. LeMoyne Snyder, Paradise, Calif., said, "In large measure our laws continue to be hostile to medical jurisprudence.

"Britain during the 19th century made great advances in this field and established chairs of legal medicine in all of its leading medical schools. However, in the United States, in only a few places have the states yet made any demand for competent medical experts to come to the aid of the law."

He was especially critical of the coroner system, which has survived almost unchanged from the English monarchy of the Middle Ages before the days of the Magna Carta and the crusades. Coroners rarely possess either medical or legal knowledge, "which would seem to be a basic requirement."

A part of this system is the outmoded coroner's inquest—a tribunal in which a jury of six persons is charged with the determination of the cause of the death and naming of the person responsible. "Generally the first six persons on the nearest park bench are chosen and they take a quick glance at the remains through an open door and listen to what evidence the coronor has at hand. This procedure seems to be founded on the theory that ignorance multiplied by six equals intelligence."

Too many other purely scientific matters are being decided by public forums and political processes, he continued. For instance, a city wants to improve

the health of its people by adding fluorine to its water supply. This is a question which has long since passed from the realm of scientific dispute, yet the matter is generally decided on the basis of letters to the editors.

Dr. Snyder noted that some advances are being made. Some states have instigated the medical examiner system in place of the coroner system. Psychiatry is having an effect on law. The 100-year-old test for sanity—that at the moment of the crime, the accused had a sufficient degree of reason to know he was doing an act that was wrong—already has been replaced in New Hampshire and the District of Columbia. In 1954 the United States Court of Appeals for the District of Columbia ruled "that the accused is not criminally responsible if the unlawful act was the product of mental disease or mental defect."

All of the multiplicity of branches of scientific medicine are advancing at a headlong rate. Diagnostic and surgical procedures which are commonplace were undreamed of only 10 years ago.

"Slowly but surely the laws are being molded to make use of this vast expanse of scientific knowledge in the administration of justice," Dr. Snyder concluded. "As people generally become aware of these advances the laws ultimately have to conform to encompass and use new and more reliable information. Laws never create public opinion, but laws sooner or later always have to conform to public opinion. . . . Science has provided the tools, it is up to society to see that the law uses them."

Annular Pancreas in a Three-Day-Old Child

Case Report

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THE SUBJECT of annular pancreas is not new but is of sufficient rarity perhaps as to merit the case report of a three-day-old infant. An article by Kieseewetter and Koop, Children's Hospital, University of Pennsylvania, appearing in *Surgery*, July, 1954, states that a total of sixty-two operative cases had been reported in the literature and in that article there was a record of twelve cases operated upon under the age of ten days. Six of these died. "Annular pancreas is a congenital malformation and the embryologists (Shapiro) state that the pancreas arises from two outgrowths of that portion of the gut which is later the second part of the duodenum, the large dorsal anlage becoming the tail, body and superior portion of the head of the pancreas. It carries a main excretory duct. The smaller ventral anlage is composed of two parts—left and right. The left normally atrophies and disappears while the right becomes the inferior portion on the head of the pancreas. It contains the duct and joins the duct and dorsal anlage at one end and the common duct on the other, thus forming the terminal part of the duct of Wirsung. The entire pancreas makes a clockwise rotation in developing so that the dorsal and ventral anlage assumes different positions ultimately from those at the start. It is this rotation that gives rise to certain concepts of the origin of annular pancreas." Lecco in 1910 postulated that the right ventral anlage might, in certain cases, be adherent to the duodenum then in the process of rotation clockwise it would be stretched and provide an encircling piece of tissue which would develop as an annular pancreas. Baldwin agreed with this concept basically but felt that in addition the left ventral anlage, which should ordinarily atrophy, might persist and develop so as to complete the circle of constricting pancreas. Yet another theory of annular pancreas is a simple hypertrophy thesis, as promulgated by Tieken in 1901. In this the ventral and dorsal anlage merely hypertrophied and joined as an encirclement of the duodenum. I leave this argument entirely to the embryologists.

The symptoms of annular pancreas are those of

obstruction, and of the sixty cases reported in the literature to this point about one-third have been in infancy and childhood, twelve of those being under ten days, and about two-thirds have occurred in adults. Formerly, the diagnosis was established at autopsy, and it is stated freely in the literature that it is often associated with other malformations of a widely varying nature. Substantially, the picture is one of duodenal obstruction and in infancy often complete, whereas varying degrees of obstruction incident to this condition have been reported in later life.

Characteristically, the x-ray shows a "double bubble" effect, the stomach being the larger of the two bubbles and the dilated duodenum the smaller. It is said that this is seen just as readily with a plain upright film in the newborn as it is when opaque media are used. In adults one can only postulate as to why this congenital lesion might wait sixty years before presenting symptoms. We are all quite familiar with varying degrees of pancreatic thickening and fibrosis, and I would assume, therefore, that these later life obstructions are due to changes within the encircling band of pancreatic tissue. It is now widely agreed that the best procedure is a shunt operation around the constricting lesion; namely, duodeno-jejunostomy or gastro-jejunostomy. Since this encircling band of pancreatic tissue has been shown to practically always contain either the main pancreatic duct or a sizable pancreatic duct, fistulae all too often have resulted from attempts at excising the annulus itself.

CASE REPORT

Three-day-old male infant is seen at the request of Dr. William H. Cox and Dr. Nancy King. This is the third child of this mother. Birth was entirely normal. The mother, however, has multiple sclerosis. The history was to the effect that the child had had frequent meconium stools since birth but it had vomited all nourishment offered. An x-ray had been made prior to the time I first saw the child, which showed complete obstruction of the second portion of the duodenum. No barium was seen below that

point. The child was moderately dehydrated. The hemoglobin was 21.4 grams, probably a result of hemoconcentration. The abdomen was not distended. The degree of obstruction was so definite in this case that immediate surgery was advised, with the pediatrician concurring. Gastric lavage was done prior to surgery.

Under ether anesthesia, the abdomen was opened through an upper right rectus incision. (The child had three attempts of vomiting before relaxation occurred.) The first part of the duodenum was pulled markedly to the left and seemingly could not be freed of the pancreatic mass. There was a malrotation of the colon. The mesentery of the small bowel seemed to be placed much too high in the

abdomen and to originate from too short a source, giving the impression of a small bowel knot high in the mid abdomen. The bowel below Treitz's ligament was carefully searched for evidence of atresia. None was found. There was a small amount of bile-stained fluid within the abdomen, and I wondered if we were dealing with some anomaly of the biliary excretory system as well. A gastro-enterostomy was done using No. 4 intestinal suture and No. 5 silk on the outer layers. The child returned to its room in good condition and subsequently had an uneventful recovery.

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Bad Advice to Executive

Telling a junior executive to "slow down or you'll have a heart attack" may be adding just one more reason for him to remain tense and anxious. He is already suffering from an emotional—and perhaps psychosomatic—disorder, which "is itself a stress, and a disgrace in our society's thinking," according to Dr. Richard E. Gordon, Englewood, N. J.

Warning the executive of serious emotional illness, heart attacks or early death—all of which he has already seen in his friends and relatives—merely adds a new worry. The new worry causes further tension and produces new symptoms. Then the new symptoms add to the fears and a vicious cycle is under way.

The only way to help such persons is by clear explanation of how their symptoms and disorders came about and by practical suggestions about ways they can change their lives to meet the problems, Dr. Gordon wrote in the August 8 *Journal of the American Medical Association*.

It might even be possible to help these persons through organized classes—especially in rapidly growing suburban areas where the rate of emotional and psychosomatic disorders is highest.

He based his suggestion on findings of a study comparing the rates of psychosomatic ailments in a rapidly growing suburb with that of more stable communities. The suburb had a much higher rate of psychosomatic ailments (ulcers, heart disease, and high blood pressure), probably because many of the

residents are "upwardly mobile." They are striving to rise socially and economically "out of the working class into subexecutive white-collar jobs and lesser managerial positions." But they face a serious problem in their rise toward greater executive responsibility because they were not "born to the class" as were many of the men who are top executives.

The upwardly mobile person has to learn everything the hard way—by personal trial and success or error. He "may have a great deal to lose and knows it. If his decision backfires he may lose his job and his future and be thrown back to the insecurities of his past. He wears his responsibility heavily." In addition, he has usually been sensitized by the stresses of his early life, which makes him more susceptible to psychosomatic ailments.

The financially and socially well-to-do person, however, has usually been burned less in his early years. Also, he is often well established so that "he cannot be much hurt if he makes a bad decision. He has not much to fear from the past, present or future, so can relax at the end of the day, can exercise, look after his health and play."

Psychosomatic illness and emotional disorder will disappear in the upwardly mobile person only when he feels he is secure and is able to relax. However, before that time comes, he may have undergone irreversible physical changes. To prevent this, he must learn to cope with his problems as he goes along. It is the physician's responsibility to teach him this, Dr. Gordon concluded.

The Addition to Our Armamentarium of the “Fruit of the Spirit”

An Interpretation in the Light of Galatians 5:22-23:

“But the fruit of the Spirit is love, joy, peace, longsuffering, gentleness, goodness, faith, meekness, temperance: . . .”

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IT WAS this writer's good fortune to study pharmacy before he studied medicine—and I often recall the course in Pharmacognosy, dealing with crude drugs derived from the animal and plant kingdoms. Crude drugs derived from the plant kingdom are listed in the Morphological Classification as: roots, tubers, tuberous roots, rhizomes and roots, bulbs, corm, barks, woods, pith, leaves, leaflets and leaf buds, stems, leaves and flowering fruit tops, flowers and floral parts, herbs, entire plant drugs, seeds and seed parts, trichomes, gums, mucilage, resins, gum resins, clear resins, balsams—and *fruits*. From this classification it will readily be seen that practically every part of the plant or tree yields some constituent, used in one form or another in the treatment of sick people. For example, in the light of investigation in recent years, one is led to suspect that the American Indians, in their use of various concoctions, were unknowingly using some of the “miracle drugs”. It will indeed be most interesting to see the presently undreamed of discoveries that must be forthcoming, as the scientists and pharmaceutical chemists probe deeper and still deeper into the remaining unexplored region of plant constituency, as the unknown future in Pharmacognosy is unveiled and revealed.

That part of the plant classified as *fruit* I have deliberately listed last, this because, while thinking about the use of the fruit of the plant as a medicine, the thought occurred to me that the “*fruit of the Spirit*”, as described by St. Paul in the text quoted above, is even now available, and that if we, as physicians, will but manifest this fruit in our lives, and so recommend and prescribe it to our patients, the healing results, in many cases, may be as spectacular as those noted with the use of the “miracle drugs.” I do sincerely believe that the adjunct of the “*fruit of the Spirit*” to our present armamentarium must undoubtedly be to avail ourselves of a

most helpful weapon in fighting illnesses.

At first thought on reading Galatians 5:22-23, it would appear that St. Paul should have said, “But the *fruits* of the Spirit are . . .” rather than, “The *fruit* of the Spirit is. . .” However, on analyzing these two verses more closely, one realizes that God would like for each life to be characterized by *all nine varieties* of the “fruit of the Spirit”, rather than to have one person's life manifest love, another's joy, still another's peace, a fourth's longsuffering, and so on. It is the incorporation of *all nine* of these spiritual qualities in one's life that leads inevitably to abundant living, and lessens the gap between what we are and what we should be. The purpose, therefore, of this interpretation is to refocus the light on, and to reemphasize the challenge of, Galatians 5:22-23, this in such fashion as to encourage us, as physicians, to do our best to portray to men that quality of life which will indicate that a harvest of the “fruit of the Spirit” has in truth been reaped.

Let me underscore here, as I have indicated above, that in adding the “fruit of the Spirit” to our armamentarium, we do not, obviously, add a medicine available in any form that can be given orally or parenterally. Actually, the only way that we, as physicians, can prescribe the “fruit of the Spirit” in the treatment of sickness is by *our own example*, that is to say, by an inspiration and a manner of life faithfully reflecting the “cluster of fruit” *in action*.

* * * * *

When one thinks of a fruit, it is of course logical and natural to think of a seed that must be planted and cultivated in order to produce that fruit. Since St. Paul list *nine* fruits, and since the word PHYSICIAN has *nine* letters, I like to think of each letter in the word PHYSICIAN as representing a seed, which, if planted and cultivated, will result in a harvest of these nine fruits. As, for example:

SEED—

FRUIT—

1. Personal Interest—
—(tends toward)—*Love* (for the patient as a child of God)
2. Humaneness—
—(issues in) -----*Gentleness* (in ministering to a person, whose physical healing may involve deeply mental and/or spiritual values)
3. (A) Yearning to Serve—
—(leads to) -----*Longsuffering* (in ministration)
4. Self-control—
—(spells) -----*Temperance*
5. Integrity—
—(yields) -----*Joy* (born of an alert but approving conscience)
6. (A) Conviction of Divine Resource—
—(supports) -----*Faith* (in the ultimate issue, whether of life or death)
7. Introspection—
—(compels) -----*Meekness* (in the revelation of one's own imperfections and shortcomings)
8. (An) Assurance of Divine Guidance—
—(brings) -----*Peace* (even in the inevitable presence of conflict)
9. New Birth—
—(is essential to)—*Goodness* (the simple essence of a God-like character and the *sine qua non* of eternal value)

Permit me a series of brief comments.

1. The fruit of *love* refers of course to the *Agapetic* rather than to the Erotic or Philotic type of love; in other words, it refers to that type of love which compels us to regard our patients as children of God and is, therefore, the type of love which we should seek to develop to the fullest. Doing good to others for the simple love of doing good, not for any remuneration that may be ours—this is *Agapetic* love. Imbued with *Agapetic* love, born of a deep personal concern for men, we can wish good and

seek good for another, even though that other be an enemy and even at personal sacrifice to ourselves.

2. The seed of *humaneness* results in the fruit of *gentleness*, this in such fashion that our conduct and our manner of dealing with the sick is characterized by a deeply sympathetic and compassionate concern. *Gentleness* has well been likened to kindness—and many years ago Bouvee observed that: "Kindness is a language which the dumb can speak and the deaf can understand." I think, too, of DeSales' observation that: "Nothing is so strong as gentleness; nothing is so gentle as real strength."

3. The seed of *yearning* is *longsuffering* in ministration, that is to say, a burning and continuing desire to represent the Great Physician by giving the best possible service to the sick, this service performed with a magnanimity of spirit that permits one to be tolerant in the presence of intolerance, patient in the presence of persecution, poised in the presence both of criticism and of praise.

4. The seed of *self-control* leads to the fruit of *temperance*. The importance and the need for the planting of this seed of self-control in order to gather a harvest of temperance is, I believe, quite obvious, self-revealing and self-explanatory. Chateaubriand has said that: "The most disastrous times have produced the greatest minds. The purest metal comes from the most ardent furnace; the most brilliant lightning comes of the darkest cloud." Again, McDonald has declared: "To have what we want is riches; to be able to do without is power." The temperate man is the selfcontrolled, the disciplined man, often, though not necessarily always, the man forged in the fires of tribulation and tempered in the waters of adversity.

5. The seed of *integrity* yields a joy that can only be described as supreme happiness and blessedness, that supreme happiness and blessedness—in the language of the Psalmist, that "delight"—experienced only by the man who "walketh not in the counsel of the ungodly, nor standeth in the way of sinners, nor sitteth in the seat of the scornful."

6. *Conviction*—the conviction born of a keen, personal awareness of the availability and value of divine resources—leads inevitably to *faith* in the ultimate issue of all truly dedicated effort. We, as physicians, must believe in our capacity to help the patient; we must believe with a certainty that comes only with a constant awareness of God working in and through our professional skills. Indeed, we must believe with a faith in the Supreme Healer which, even when apparently we fail, remains confident that

our ministrations, in the long count of eternity, have not been in vain.

7. The seed of *introspection* produces the fruit of *meekness*, this as the inventory we should constantly, at least periodically, be taking of ourselves reveals our imperfections, shortcomings, and needs, both personal and professional.

8. The seed of *assurance* bears the fruit of *peace*—a serenity of mind which becomes ours when we are conscious, not only of divine resources as noted above, but also of the detailed reality of divine guidance, always at hand as an inexhaustible but only too frequently untapped reservoir. Peace is the reward, even in the inevitable presence of conflict—an inner peace that passeth all human understanding—when we accept the simple fact that God is with us.

9. The seed of a *new birth* is essential to *goodness*. Sir Philip Sidney has asserted: "Doing good is the only certainly happy action of a man's life." Also, Ruskin has observed that: "It is a good and safe rule to sojourn in every place as if you meant to spend your life there, never omitting an opportunity of doing a kindness, or speaking a true word, or making a friend." Yet such is our human nature that unless and until we shift the center of our existence and service from self to God, in short, *are born again*, we must hope in vain to grasp that fruit of goodness which, as Beecher once wrote, makes "every (charitable) act a stepping stone toward heaven."

* * * * *

In conclusion, just as the Ten Commandments are divided into two tables, the first table dealing with our relationship to God and the second with our relationship to each other, so have the nine varieties of the "fruit of the Spirit" been divided by exegetes and clergymen into three groups: The first group—*love, joy, peace*—dealing with our relationship to God; the second group—*longsuffering, gentleness, goodness*—dealing with our relationship to each other; the third group—*faith, meekness, temperance*—dealing with our relationship to ourselves. Moreover, if we are to reap a rich cluster of the "fruit of the Spirit"—if we are to glorify our Father by good works and a life truly manifesting this "fruit of the Spirit"—we must be firmly rooted and grounded in the Great Physician, Who promised: "If you abide in me, I will abide in you." In short, we may very well say that the ultimate purpose of life is to reap a full harvest of the "fruit of the Spirit." A life so lived, not only by word, but, more importantly, *in deed*, must, by its very influence and inspiration, tend toward the reaping of a similar harvest in the lives of them before whom we daily move and to whom we daily minister.

It is in this conviction that I submit these nine varieties of the "fruit of the Spirit" as a vital addition to our armamentarium, and recommend that we, as physicians, prescribe them by *our own example*. Before God and by His help, we must hold in our hearts and present in our lives a selfless dedication to the service to which we have been called.

Destroy Cleaning Bags

As fall clothes are brought out of storage, their covering plastic cleaning bags again become a major menace. When the bags are removed from the clothing, they should be destroyed. They should be shredded or tied in knots and put in a tightly covered disposal can, an article recommended in the October Today's Health, published by the American Medical Association. They should never be used as make-shift covering for pillows, blankets or mattresses in baby carriages, playpens, or cribs.

The bags with "their softness, silkiness and see-through characteristics" attract children as playthings. Children love to pull the bags over their

heads, but when they do, they face possible death.

It appears that an electrostatic charge may be generated by friction from handling the bag. The youngster, while peering through, is apt to have the bag literally grab him through the electrical attraction to his face. If this happens, only prompt intervention of an adult will prevent tragedy. A child can fight back at the material, but he cannot tear it. Dizziness, inability to think, and muscle spasm occur. Breathing becomes more and more rapid. Vomiting with inhalation of undigested food puts an end to this terrible situation.

It was written by Beatrice Schapper, New York.

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Some Broader Aspects of Medical Practice

The practice of medicine is changing rapidly and this change is being brought about by changing times. It is changing, like the pull of gravity, at an ever increasing speed, and in the direction of an ever broader scope. The broader scope encompasses a number of areas which might be summed up by the statement that the emphasis is shifting from disease to health. Historically, the physician's chief and at times his only concern for his patient was the alleviation of pain, suffering, and distress. Today, he is thinking in terms of the prevention of the things that produce these departures from health.

In primitive times man believed that suffering and disease were the result of disfavor with the spirits. He turned to somebody in good standing with them to serve as his ally. Some healthy persons were apparently better allies to the ailing than others. These men became the acknowledged healers or medicine men and there was usually one in a tribe. The patient had faith in him and he accepted the responsibility of making the ill person well, even though he might be courting disfavor with the spirits by interfering with their will. So it was the patient who created the doctor. The more unusual the doctor's appearance, the more exotic his behavior, the more incomprehensible his speech, the more bizarre his treatment, the happier were his patients. They felt assured that they had someone of great skill and power to turn to in their hour of need. The medicine man grew increasingly more impressed with his own powers and grew aloof from the common man. His "cures", resulting mainly from the inherent ability of the organism to survive many diseases and injuries, almost convinced him that he had supernatural powers.

It was the ancient Greek who first saw disease in a sane and impersonal light, viewing it as a reasonable process over which man had some control other than an appeal to the spirits.

Christianity heightened the concept of mercy and taught that those who worked among the sick were doing God's will. This was quite a change from the belief that the ill were being punished by the gods

and that those who practiced the art of healing were inviting disfavor on themselves by interfering with this punishment.

Even wars and the birth of nationalism had their effects on the meaning of health and on the practice of medicine. Though the concept developed slowly, disease and injury have come to be regarded as losses to military and national strength that can be avoided.

Through various influences medicine has changed and progressed with time. Lawrence J. Henderson remarked that it was about 1910 when a random patient with a random disease and attended by a random doctor had about a 50-50 chance of benefiting from the encounter. Since then the odds have gone up in favor of the patient.

One of the most revolutionary changes in the contemporary practice of medicine is the shift in emphasis from disease to health. Up to comparatively recent times the physician devoted his entire career to ministering to the sick; it was the only means he knew to combat ill health. This type of physician will be long remembered for the very considerable contribution he has made to the health of his patients but, as with so many other aspects of our rapidly changing world, he is rapidly becoming out-dated.

Tomorrow's physician will not be able to survive if he does not have the time or the inclination to work with his patients for the attainment of optimum health. He will not be able to survive because the very persons responsible for his existence—his patients—will demand this. As research and experience bring more knowledge of health maintenance, disease prevention and rehabilitation, the public will expect to receive these benefits without delay.

This is not to say that the practicing physician is doing nothing in the overall field of promoting better health for his people. But it is a fact that some are not doing all that needs to be done.

Industry has seriously adopted this new concept of emphasizing health rather than illness. Industrial medicine began with the treatment of accidental injuries and minor infections and the installations of safety devices to prevent accidents. Lately it has gone into the field of mass health maintenance. They regard disease with matter-of-fact impatience as a

condition ranging from a nuisance to an outright tragedy. They regard health as a state ranging from a demonstrable economy to a civic right.

An example in the spirit of our ideals is the practice of our pediatricians and obstetricians; they feel it vitally important to maintain the health of our children and our mothers-to-be at the highest possible level. A recent survey by the American Academy of Pediatrics showed that pediatricians devote 54% of their time to disease prevention and health promotion and less than half their time to caring for the sick child.

A question sometimes arises with regard to the distinctions between medicine, preventive medicine, and public health. Today there is a common-sense recognition that preventing and ameliorating disease and disability is the business of everyone in medicine. There is developing a general recognition that a partnership between public health physicians and private practitioners is vital to maintain the good health of all. A few still present the old argument that public health activities compete with the practice of private physicians. The truth is quite the opposite. Each year, thousands upon thousands of patients, who would not have done so otherwise, stream into the offices of private physicians because they were sent or influenced to go there by public health workers.

Preventive medicine has been outlined as consisting of three phases or areas of activity:

(a) the prevention by biological means of certain preventable diseases, such as acute communicable and deficiency diseases;

(b) the prevention of some of the consequences of preventable or curable chronic diseases, such as syphilis and tuberculosis;

(c) the prevention, retardation, or amelioration of some of the consequences of nonpreventable and noncurable diseases, such as many cardiac ailments.

It becomes evident that, in many cases, preventive medicine becomes all but indistinguishable from clinical medicine. On the other hand, private practitioners are more and more finding their way into activities that can be classed only as public health: they participate in mass vaccination campaigns; they serve diligently on medical committees of voluntary health agencies; they donate their services to worthy social causes; they participate in mass screening programs; and they supply priceless case-study information for epidemiologic investigations in public health.

The principles and methods of epidemiology are well established and these are applicable to the study of noncommunicable as well as communicable diseases. This is an area of medical knowledge that contributes to our understanding of the etiology and control of diseases and should be a part of the fundamental training of all physicians.

Accidents are the leading cause of death among persons up to 35 years of age in the United States. The Virginia State Department of Health has established a program aimed at minimizing death and disability from all types of accidents. In the study area, both physicians and the public health workers are engaged in epidemiologic research, in the collection and analysis of accident data, and in development of accident-prevention activities. Without the full cooperation of the practicing physicians, this study would be impossible.

Such partnerships would continue to grow but they need deep roots in the rich soil of common aspirations. The world of medicine is poised for a mighty onslaught against human misery. Advances in the conquest of cancer, diseases of the heart, and arthritis appear to be just in the offing. Research, depending on how wisely we develop it and how promptly we use it, can mean much or mean little in our attack.

The number of medical school graduates in training for careers in the basic medical sciences is small. Unsolved problems of crucial importance to man and his diseases are still to be approached in the field of medicine. The spirit of adventure that is inherent in a search for understanding must be made available to the student if he is to sense the satisfactions of an academic career. Research is probably as old an activity as teaching. Workers are needed in this field. The etiology of many common diseases is still obscure; their causes need to be known if we are to prevent and properly treat them.

We can do much with the knowledge that we have but we need to know more to prevent, control, and rehabilitate. We cannot fully meet this need until research reveals techniques for preventing and treating many of the major health problems that exist today.

If American medicine is to live up to its great expectations, it must accept a broader view of the nation's needs and the profession's leadership role. As a profession, an important first obligation is to medical education. Medical education in this country and many others is in a period of revolution, the inevitable result of rapid scientific, social, and eco-

nomic change. Experimental programs, initiated since 1946, have proved their worth and their influence is beginning to spread. There is no shortage of brains in American medical education. The central goal of the undergraduate medical school, defined at the First World Conference on Medical Education in 1953, is "to turn out someone fundamentally equipped to be a practicing doctor." The period of training should not be specifically directed toward the training of a general practitioner or a specialist or a public health official or an administrator, but should provide the student with a foundation for his after-career in any branch of medicine.

Under this new concept of medical education the student is introduced to human beings, both sick and well, early in his course of study. A preventive, health-conserving point of view is built into the "well-prepared" physician.

Medicine has been called "the ablest of the professions." Certainly, as physicians in America, we inherit a glorious past, a distinguished tradition of scholarship, ethics, and service to humanity. What of the future? Will we uphold that tradition?

REFERENCES

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 Gregg, Alan, *Challenges to Contemporary Medicine*, Columbia University Press, New York, 1956.
 Hanlon, John J., *Principles of Public Health Administration*, The C. V. Mosby Company, St. Louis, 1950.
 Hilleboe, Herman E., from "The President's Page", *New York State General Practice News*, April, 1959.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Sept. 1959	Sept. 1958	Jan.- Sept. 1959	Jan.- Sept. 1958
Brucellosis -----	3	3	20	16
Diphtheria -----	2	0	8	14
Hepatitis -----	52	32	345	221
Measles -----	50	186	14532	21357
Meningococcal Infections -----	2	1	67	70
Meningitis (Other) -----	102	43	297	199
Poliomyelitis -----	93	37	236	98
Rabies (In Animals) -----	10	9	129	221
Rocky Mountain Spotted Fever --	2	7	33	32
Streptococcal Infections -----	362	379	7078	5502
Tularemia -----	2	3	16	28
Typhoid -----	0	7	14	34

New Radioactive Test Shows Liver Damage

A new test using radiocative dye to measure the function of the liver was described in the July 4 *Journal of the American Medical Association*.

The test, which is much simpler than older tests, opens many new possibilities in the study of liver disease and damage, according to Drs. Robert A. Nordyke and William H. Blahd, University of California Medical Center, Los Angeles.

Among the conditions in which the test is used are cirrhosis, hepatitis, alcoholism, and common bile duct obstructions.

Radioactive rose bengal is injected into the blood stream. The speed with which it disappears from the blood indicates the degree of liver damage or disease. The liver plays a role in removing the dye from the blood. Its disappearance is measured by a standard radiation counting device held against the head behind the ear.

The head was chosen as the site of measurement because it contains a rich and stable blood supply which is distant from the large and changing concentrations in the abdomen.

Older tests using rose bengal and other substances necessitated the withdrawal of blood from the veins for checking the color of the blood. The value of these tests is restricted, the doctors said, to liver disease without jaundice because of difficulty in reading color changes and because of possible injury to an already damaged liver by large doses of dye.

The new test circumvents these problems. Since detection of changing concentrations of dye depends on levels of radioactivity rather than color, valid results are extended to all types of liver damage despite the presence of jaundice. In addition, the minute quantities of both radioactivity and dye allow multiple tests to be done without harm.

MARGARET L. CAVEY, R.N.

Psychiatric Nursing Experience for Nursing Students Inaugurated at Western State Hospital

Nursing students from three of Virginia's diploma schools of nursing, Lynchburg General Hospital, Johnston Memorial Hospital, Abingdon, and Winchester Memorial Hospital, Winchester, began a twelve-week course in Psychiatric Nursing at Western State Hospital, Staunton, on September 1, 1959.

The stimulus for this new program came in February, 1959, when the Department of Mental Hygiene and Hospitals was requested by some Virginia Schools of Nursing and the Virginia State Board of Nurse Examiners to offer psychiatric experience to affiliate nurses in our State Mental Hospitals.

In March, 1959, the State Hospital Board authorized the establishment of the first program at Western State Hospital for twenty nursing students per rotation this year, with the view of gradually expanding the program to include the other State Mental Hospitals.

Before this program became a reality, much preliminary planning was necessary. The Virginia Department of Mental Hygiene and Hospitals, with the cooperation and support of the Virginia State Board of Nurse Examiners and the National Institute of Mental Health, arranged a conference on the subject of "The Joint Responsibility of Schools of Nursing and State Mental Hospital Personnel in Improving Patient Care". Representatives from all of the Virginia State Mental Institutions and the majority of the diploma schools of nursing met at the John Marshall Hotel, Richmond, on June 25-26, 1959, to discuss a three-month program in psychiatric nursing for nursing students.

A joint meeting of representatives of the three schools of nursing and Western State Hospital was held at Western State Hospital in July to discuss detailed plans for implementing the program as of September 1st. A Contract of Agreement was prepared and agreed upon mutually by the Cooperating Agency, Western State Hospital, and the Schools.

CAVEY, MARGARET L., *Director, Psychiatric Nursing, Department Mental Hygiene and Hospitals, Richmond.*

Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

A new position was established at Western State Hospital for a Director of the Student Nurse Program on August 1st. Mrs. Georgia Stewart, R.N., was employed as of this date to develop the program and make necessary arrangements for the arrival of the students on September 1st.

The twelve-week course in psychiatric nursing for the diploma program students prepared by Mrs. Georgia H. Stewart, R.N., is as follows:

Emotional health is a major problem in our society. Nursing care is based on the fact that an individual is the product of his culture and functions as an integrated whole. A function of nursing is to foster growth of personality in the direction of health. A nurse's ability to give supportive care to patients is proportionate to her degree of self-awareness and her ability to understand what goes on in the inter-personal situation in order to use this interaction constructively.

The psychiatric nursing experience can assist the student nurse in developing these insights, abilities and skills and give her an opportunity to continue the expansion of her own personality by participating as a democratic member of various groups concerned with patient care.

The objectives of the course are as follows:

1. To appreciate the interdependence of intellectual, emotional and physical development and integration of personality.
2. To understand the more common types of psychiatric disorders—their etiology, symptomatology, course, treatment and nursing care.
3. To gain a knowledge of human behavior and the needs and attitudes expressed by behavior.
4. To develop in the student an awareness of self and her relationship to others.
5. To develop skill in using the inter-personal situation to provide a therapeutic atmosphere in which the patient can learn more satisfying ways of living with people.
6. To grow in an appreciation of social and cultural problems associated with mental illness, community facilities for meeting them and the nurses responsibility in promoting mental health.

UNIT I ORIENTATION:

1 or 2 weeks 20-30 hours

Purpose: To aid the student in:

1. developing an awareness of her ideas and attitudes concerning those who have health problems in the area of living with others and the group of people who give aid and assistance in resolving these problems.
2. becoming acquainted with the physical plant at Western State Hospital, as well as its history, objectives, therapeutic facilities and personnel that are available for her learning experiences.
3. learning terminology commonly in use and peculiar to a psychiatric setting so that she may be able to communicate more clearly with co-workers.
 - a. Free response test-discussion
 - b. Conferences with department representatives
 - c. Tours of grounds, buildings and departments
 - d. Use of glossary
 - e. Films
 - (1) Nurse-patient relationships
 - (2) Rx attitude
 - (3) Search for happiness

UNIT II INTER-PERSONAL RELATIONSHIPS IN NURSING:

3-4 weeks 30-40 hours

Purpose: To aid the student in:

1. developing an understanding of personality structure, psychosexual development of personality, human needs, human behavior, etc.
2. expanding her own self-awareness
3. learning the dynamics involved in an inter-personal situation in order to pick out problems manifested by behavior so that she can learn skills in using the inter-personal situation to improve her care to patients.
 - a. Organization of personality
 - (1) levels of consciousness
 - (2) aspects of personality
 - b. Psychosexual development
 - (1) infancy to geriatrics
 - c. Psychodynamics
 - d. Human needs
 - e. Observation and meaning of behavior
 - f. Communication
 - g. Projective techniques
 - h. Films
 - (1) Child development films

- (2) Social-sex attitudes
- (3) Marriage is a partnership
- (4) Retire to life

UNIT III CLINICAL PSYCHIATRIC AND PSYCHOTHERAPEUTICS:

3-4 weeks 30-40 hours

Purpose: To aid the student in:

1. learning the classification and symptoms of psychiatric disorders.
2. learning some of the theories concerning the cause and treatment of mental disorders.
 - a. Principles of psychiatric nursing
 - b. Classification of mental diseases
 - (1) organic psychoses
 - (2) functional psychoses
 - (3) the neuroses
 - (4) personality disorders
 - (5) emotional crutches
 - c. Types of treatments used
 - (1) psychotherapy
 - (a) individual
 - (b) group
 - (2) psychoanalysis
 - (3) physical treatments
 - (a) E.S.T.
 - (b) tranquilizers
 - (c) O.T., R.T., etc.
 - d. Films
 - (1) City of the sick
 - (2) Breakdown
 - (3) Feelings of hostility
 - (4) Feelings of rejection
 - (5) Search for sanity

UNIT IV COMMUNITY ASPECTS:

1-2 weeks 20-30 hours

Purpose: To aid the student in:

1. learning principles of mental health which she can practice and teach to others.
2. learning of the needs of communities for facilities, funds, personnel and research for meeting the mental health problem.
3. becoming aware of existing community facilities concerned with promoting mental health and/or the rehabilitation of those who have problems in the area of emotional health.
 - a. Principles of mental health
 - b. Mental health as a social problem
 - c. Rehabilitation
 - (1) acceptance of self
 - (2) use of abilities remaining

d. Field Trips

- (1) Woodrow Wilson Rehabilitation Center
- (2) Virginia School for the Deaf and Blind
- (3) Lynchburg Training School and Hospital

e. Films

- (1) Back to Life
- (2) Remotivation

The students will be assigned to selected clinical areas where the learning experience will be a part of the total psychiatric nursing experience.

Although a final evaluation of the program will not be made until summer of 1960, it is anticipated that the program will be an asset to the hospital in a number of ways:

1. Patient care will be improved by the increased quality of nursing service rendered by the stu-

dents. The assignment of students to specific units will not in any way reduce the number of nursing personnel regularly assigned to these areas.

2. Nursing students will acquire a better understanding of the care and treatment of patients in Virginia State Mental Institutions.
3. The program will serve as a stimulus to nursing personnel as well as other staff members because the nurses, doctors, psychologists, and social workers will participate in the teaching program.
4. It is hoped that a number of graduate nurses will seek employment in Virginia Mental Institutions as a result of their satisfying student experiences and that this new program will thus serve as an excellent avenue for recruitment.

Silicon Hair Curlers

Silicon hair curlers may produce an invisible but terribly painful skin disease among hairdressers, two University of Pennsylvania dermatologists have warned.

Writing in the August 8 Journal of the American Medical Association, Drs. Walter B. Shelley and Donald M. Pillsbury said the disease consists of excessively sensitive fingertips, although the skin shows no sign of disease.

The sensitivity is due to tiny particles of silica which become embedded in the top layer of the skin, irritating the sensory nerve endings. The particles rub off silica or sand-coated hair curlers, which have replaced plastic curlers in many beauty shops.

The widespread use of these curlers suggests that such an invisible skin disease "may become common among beauticians unless efforts are taken to eliminate this new occupational hazard."

They have seen one case—in a 40-year-old woman, who first noted a marked sensitivity of the fingertips to light touch. This began on the side of the tip of the right fourth finger. Eventually all the fingertips became involved. Pain and inflammatory changes were absent, but exquisite tenderness to touch eventually forced her to stop working.

At first it was thought the patient had a neurological or vascular condition. Treatment with a variety of local anesthetic and steroid creams was unavailing.

Finally microscopic examination of the fingertips showed the tiny particles embedded in the skin. Then the patient remembered that the condition had begun about the time she had started using sand-coated curlers instead of plastic curlers.

Treatment consisted of removing the very top layer of skin by microsurgery.

Edited by

RICHARD J. ACKART, M.D.

Group Health Association

During May of this year the Group Health Federation of America (formerly Cooperative Federation of America) and the American Labor Health Association held a joint meeting in New York. At the meeting the two organizations merged, and adopted a new name: Group Health Association of America.

The membership of the new association is composed basically of various group health plans in the country, such as Labor Health Institute of St. Louis, Group Health Plan of St. Paul and Health Insurance Plan of Greater New York, and certain labor organizations.

At the business sessions of Group Health Association of America the membership adopted a legislative program generally in the form submitted to them by their counsel, Mr. Horace Hansen of St. Paul. This legislative program is quite ambitious and may be summarized as follows:

1. Federation Legislation:

Vigorous support for the Forand Bill and for a bill sponsored by Senator Humphrey (S. 2009 of last Congress), which proposed to provide long-term low interest rate loans to nonprofit health service plans. If enacted, S. 2009 would have provided for the use of tax money to construct and to maintain clinics and related facilities for closed panel prepaid plans.

2. State Legislation:

To urge adoption in all of the state legislatures of a seven-point program, including:

(a) a statute legalizing group health plans and over-ruling the corporate practice of medicine rule and any conflicting provisions of the insurance laws;

(b) a pathology statute requiring all tissue removed during surgery to be examined by an approved

pathologist, and a written report filed with the hospital and with the State Department of Health;

(c) a hospital non-discrimination statute prohibiting hospitals, public or private, from limiting medical staff privileges solely because a physician is employed by or associated with a closed panel plan;

(d) a statute called "the Medical Anti-Trust Law" specifically providing that concerted action against any form of medical prepayment plan is an unlawful conspiracy;

(e) a statute adding two lay persons to the State Board of Medical Examiners;

(f) a statute adding one or more lay members to the State Board of Health; and

(g) finally, a statute creating a study commission to survey and report upon the shortage of physicians and to recommend means of "solving this urgent problem."

Quite clearly, the foregoing is an extremely ambitious legislative program. Equally clearly, it utilizes the oblique approach toward fostering closed panel practice and crippling both the private practice of medicine and "free choice" prepayment methods.

In addition to this positive legislative program, Group Health Association also intends to try to repeal those statutes that now exist that limit prepaid medical or hospital service plans to Blue Cross or Blue Shield type. In Virginia and in a number of other states the Blue Cross and Blue Shield enabling acts are somewhat exclusive in form and effectively prohibit other types of prepayment service plans from competing with the "Blues". In states like Virginia, Group Health Association will no doubt make its most strenuous efforts to enact its foot-in-the-door measures.

During 1960, and as time goes by, one or more of the Group Health Association's proposals may be presented to the legislature of Virginia, and we should be alert to this possibility.

Current Currents

SPECIAL REPORT ON ACTIONS OF THE HOUSE OF DELEGATES OF THE MEDICAL SOCIETY OF VIRGINIA

THE NEW PRESIDENT of The Medical Society of Virginia is Dr. Allen Barker, Roanoke. The President-Elect is Dr. Guy W. Horsley, Richmond and the First Vice-President Dr. Robert S. Hutcheson, Jr., Roanoke. Elected as Second Vice-President is Dr. Russell Buxton, Newport News, and Third Vice-President, Dr. Mallory S. Andrews, Norfolk.

IMMUNIZATIONS: A resolution was adopted urging that all recommended immunizations be administered as early in life as possible, and that the profession administer the immunizations to its patients at a reasonable fee, or if the patient is unable to pay—without fee. It also called for physicians to cooperate with public health efforts in encouraging immunizations and asked that local medical societies also take every possible action to support immunizations. The resolution opposed the passage of legislation which would make specific immunizations a requirement for school admission.

SOCIAL SECURITY: Social Security again came in for its share of attention and the House recommended that, following publication of the proceedings of the Wednesday morning portion of the program (Social Security Panel), an official poll be conducted on compulsory Social Security. It was further declared that the results of this poll should be observed by the Society's Delegates to the AMA.

RADIATION HAZARDS: The House approved a report of the Committee on Radiation Hazards which called for legislation to declare the public policy of the State with respect to radiation and radio active materials. The proposed bill would create a state radiation control agency and a committee to assist this agency. It would prescribe the powers and duties of the agency and committee, prohibit certain practices and provide penalties for violations.

SENIOR CITIZEN CONTRACT: A special "senior citizen" contract, proposed by the Virginia Medical Service Association (Richmond Blue Shield), was approved. One of the principal features of the contract is a reduced fee schedule. Income limits for full service benefits are \$1,500 for the individual and \$2,500 for husband and wife.

SECOND INIURY LAW: The House again went on record as advocating the passage of "second injury" legislation.

COMMITTEE SAFEGUARDS: The House agreed that the Society should seek the enactment of legislation designed to provide legislative safeguards for those committees obtaining information for statistical purposes. A good example would be the Committee on Maternal Health, which is constantly seeking to develop statistics on the causes of maternal deaths, etc.

STATE BOARD OF MEDICAL EXAMINERS: The Legislative Committee was requested by the House to assist the State Board of Medical Examiners in obtaining legislation which would provide the Board with a freer hand in establishing qualifications of applicants and the fees for examinations. The Board is now using the examination questions devised by the National Board of Medical Examiners and its expenses have greatly increased. The State Board must now pay the National Board \$10.00 for each applicant.

FOOTBALL INJURIES: The House called attention to the great possibility of major and minor injuries in high school football and requested local medical societies to use every means to see that a physician is in attendance at all high school football games.

PRESIDENT'S AWARD: A special resolution was adopted nominating Dr. Leroy Smith, Richmond, for the annual award made each year by the President's Committee on Employment of the Physically Handicapped.

RUSSELL COUNTY PROGRAM: Also approved was a recommendation that the Society urge further expansion of the program currently used in Russell County. This program features general medical clinics staffed by local physicians with the help of local public health officials. Such programs would, of course, be subject to the consent and cooperation of local medical societies.

GENERAL PRACTITIONER OF THE YEAR: Dr. Montie Lewis Rea was elected to this honor. The House also accepted a recommendation that the "General Practitioner of the Year" award be discontinued in the future.

DELEGATES TO THE AMA: Dr. W. Linwood Ball, Richmond, and Dr. Allen Barker, Roanoke, were re-elected as Delegates to the American Medical Association. Dr. W. Callier Salley, Norfolk, and Dr. Russell Buxton, Newport News, were chosen as Alternates. New members of Council are Dr. Thomas W. Murrell, Jr., Richmond, Dr. William N. Thompson, Stuart, Dr. Dennis P. McCarty, Front Royal, and Dr. W. Fred-eric Delp, Pulaski.

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This summary covers only a few of the important subjects considered by the House of Delegates. Please read the complete minutes in the next issue of the Virginia Medical Monthly.

A New Epidemiological Study of Cancer

Many specific causes of cancer have come to light by the simple observation of an unusually high incidence of the disease among a group of people exposed to some particular environmental factor. The classic example is the observation made by Percival Potts in 1775 of an extremely high incidence of cancer of the scrotum among chimney sweeps. From this he concluded that heavy exposure to coal soot could cause the disease and that it would be prevented by reducing exposure.

The subsequent decline in cancer of the scrotum following changes in the method of cleaning chimneys (and the passage of laws prohibiting the use of children as chimney sweeps) is strong evidence that Potts' interpretation of his data was correct. A century and a half later two Japanese scientists succeeded by experiment in producing cancer of the skin with soot. Subsequent experiments together with epidemiological evidence have shown that prolonged exposure was required (e.g., many years in man or many months in mice). It appears now that the probability of cancer occurring as a result of exposure to a carcinogenic agent depends upon the potency of the agent, the degree of exposure, the duration of exposure, and the "susceptibility" of the individual.

Since Potts' time, a considerable number of other causes of human cancer have been discovered. These include many different organic and inorganic chemicals as well as prolonged over-exposure to x-rays. In each instance, the discovery resulted from the observation of a high incidence of cancer of some specific site among a group of people, all of whom were exposed to the same agent.

Considering what is already known about causes of cancer in human beings, and considering the circumstances which led to their discovery, there is reason to suspect that many cases of cancer result from exposure to environmental factors not yet identified as carcinogenic for human beings. Once these factors are determined, there is hope of preventing the disease by reducing exposure to the responsible agents just as aniline dye workers are now protected from exposure to betanaphthylamine to avoid the risk of bladder cancer.

One approach to the problem is to learn as much as possible about the environment, habits and family

history of a very large number of people and then ascertain the later incidence of cancer in relation to these factors. By starting with a population of several hundred thousand people in all walks of life, the number of individuals falling into specific exposure groups should be sufficient to yield reasonably reliable cancer incidence rates. If any of these groups have an unusually high incidence of cancer of some specific site, then further studies can be undertaken to determine whether a direct causal relationship exists.

This is the basis for the nationwide epidemiological study undertaken by the American Cancer Society under the direction of Dr. E. Cuyler Hammond, Director of Statistical Research, American Cancer Society.

Several hundred counties in 25 states, including Virginia, have been selected as study areas. The selection was made in such a way as to give satisfactory geographic distribution. Cities of various sizes and types as well as rural areas are included.

In each of these areas, volunteer workers of the American Cancer Society are being trained for the enrollment and tracing of subjects. Each volunteer will enroll about ten families (i.e., households) in which there is at least one person over the age of 45. All members of these families who are over the age of 30 will be asked to fill out a questionnaire. In order to keep the information strictly confidential, each subject will put his questionnaire in a sealed envelope for transmittal to the research center in New York. The volunteer workers will not question the subjects and will not be permitted to see the completed questionnaires.

The national enrollment of subjects began in October 1959 and should be completed within a short time. Once a year thereafter for the next six years, every subject will be traced. Causes of death will be ascertained from death certificates. The physician who signed the death certificate will be requested to supply additional medical information on cases where cancer is mentioned on the death certificate. In addition, once every two years the subjects will be requested to answer a brief questionnaire concerning the illnesses occurring during the intervening period.

Two questionnaires will be used, one for men and the other for women. These include sections on general characteristics (age, race, marital status, reli-

gion, etc.), family history, history of diseases, physical complaints, habits and exposure of various sorts. On the form for women, special attention is given to questions relating to the breasts and female genital organs. On the form for men, special attention is given to occupation and occupational exposures. Questions relating to place of residence will be utilized to investigate the possible effects of air pollution. Information on twins in addition to information on family history and on husbands and wives should provide data on possible inherited factors.

While the major purpose of the study is to investigate factors of possible etiologic significance, it is hoped that it will also yield information of value in relation to lay education. The subjects are asked detailed questions about "present physical complaints" and the answers will be analyzed in relation to cases of cancer diagnosed in the subsequent several months. In order to avoid biasing the subjects,

questions are asked about physical complaints which are probably not related to cancer as well as about complaints which may be symptomatic of cancer. Assuming, as is probable, that positive answers to certain of these questions are highly related to the presence of cancer, the data should be of value in persuading people with such complaints to see their doctor immediately. The aim is to reduce the factor of "patient delay" in the diagnosis of cancer.

The Virginia Division of the American Cancer Society is participating in the study. Nationally, it is planned to enroll five hundred thousand families, of which twenty-five thousand families will be enrolled in Virginia during the period October 12 to November 21, 1959.

ROBERT J. FAULCONER, M.D.

Norfolk, Virginia

Chairman, Cancer Prevention Study

Virginia Division, American Cancer Society

Artificial Kidney

The artificial kidney can be used to treat just about anyone, whether he is very old, very young, or very ill. Dr. Willem J. Kolff and his associate, Dr. William A. Kelemen, Cleveland Clinic Foundation, said if the machine is skillfully used it carries little danger.

Their statement appears in the October 3rd Journal of the American Medical Association.

The artificial kidney consists of a cellophane coil resting in a stainless steel tub containing a special solution. A plastic tube is connected to a leg artery and the blood is forced into one end of the cellophane coil. The blood flows through the coil and back into the body through a tube connected to a vein in the arm.

The machine duplicates the work of the kidneys, removing poisons and chemicals from the blood. It is used in uremia and other conditions in which the kidneys fail to work. It is also used when a person

has been poisoned, since it can remove poisonous substances 20 times faster than the kidneys.

All major medical centers have the machines and a trained team of physicians to operate them.

The changes in blood volume produced by the use of the artificial kidneys can cause shock or abnormally rapid blood movement, the doctors said. These have been considered to be especially dangerous for the very young, the very old or the very ill. However, skillful use of the machine can prevent them.

The machine should be used whenever there is the slightest possibility of recovery, they said, adding, "When the recoverability of a patient is questionable, he should be given the benefit of the doubt."

The advantages and almost certainty of clinical improvement whenever uremia or fluid retention play a part in the illness far outweigh the alleged dangers of the machine.

Book Announcements . . .

Books received for review are promptly acknowledged in this column. In most cases, reviews will be published shortly after the acknowledgement of receipt. However, we assume no obligation in return for the courtesy of those sending us same.

What Next, Doctor Peck? By JOSEPH H. PECK, M.D. Prentice-Hall, Incorporated Englewood Cliffs, New Jersey. 1959. xi-209 pages. Price \$3.50.

Synopsis of Ophthalmology. By WILLIAM H. HAVENER, B.A., M.D., M.S. (Ophth.), Professor and Chairman, Department of Ophthalmology, Ohio State University; Member, Attending Staff, University Hospital, Columbus; etc. The C. V. Mosby Company, St. Louis. 1959. 288 pages. With 189 illustrations. Price \$6.75.

Synopsis of Ear, Nose, and Throat Diseases. By ROBERT E. RYAN, B.S., M.D., M.S. (ALR), F.A.C.S., Department of Otolaryngology, St. Louis University School of Medicine; Associate Otolaryngologist, St. John's Hospital, St. Louis; etc. WILLIAM C. THORNELL, A.B., B.M., M.D., M.S. (ALR), F.A.C.S., Assistant Professor, Department of Otolaryngology, Cincinnati College of Medicine; Staff Member, Cincinnati General Hospital; etc. HANS VON LEDEN, M.D., F.A.C.S., F.I.C.S., Assistant Professor Otolaryngology, Northwestern University Medical School, Chicago; Associate Professor of Otolaryngology, Cook County Graduate School of Medicine; etc. The C. V. Mosby Company, St. Louis. 1959. 383 pages. Illustrated. Price \$6.75.

Regulation of Cell Metabolism. Ciba Foundation Symposium. Editors for the Ciba Foundation G. E. W. Wolstenholme, O.B.E., M.A., M.D., B.Ch., and Cecilia M. O'Connor, B.Sc. Little, Brown and Company, Boston. 1959. xii-387 pages. With 109 illustrations. Price \$9.50.

Textbook of Physiology. By K. M. BYKOV, G. Y. VLADIMIROV, V. Y. DELOV, G. P. KONRADI, A. D. SLONIM. Edited by Academician K. M. Bykov. Foreign Languages Publishing House, Moscow. 1958. 763 pages. Illustrated.

Your Mind Can Make You Sick or Well. How to Let the Wonderful Powers of Your Mind Bring You Magnificent Health and Complete Well-Being. By CURT S. WACHTEL, M.D. Prentice-Hall, Incorporated, Englewood Cliffs, New Jersey. 1959. xii-244 pages. Price \$4.95.

Synopsis of Treatment of Anorectal Diseases. By STUART T. ROSS, M.D., F.A.C.S., F.I.C.S., Secretary of the American Board of Proctology; Fellow and Past President of the American Proctologic Society; etc. The C. V. Mosby Company, St. Louis. 1959. 240 pages. Illustrated. Price \$6.50.

Surgery of the Foot. By HENRI L. DUVRIES, M.D., Clinical Instructor in Surgery, Chicago Medical School; Attending Surgeon, Columbus Hospital, Mother Cabrini Hospital and Frank Cuneo Hospital; etc. Foreword by Karl A. Meyer, M.D. Introduction by Edward L. Compere, M.D., The C. V. Mosby Company, St. Louis. 1959. 494 pages. With 403 figures. Price \$12.50.

501 Questions and Answers in Anatomy. By STANLEY D. MIROYIANNIS, B.S., M.A., Ph.D., F.A.A.S., F.I.A.S., Professor of Anatomy and Chairman of the

Department, Still College. With an Introduction by Ernest V. Enzmann, Ph.D., Associate Professor of Histology and Embryology, Still College. Vantage Press, New York. 1959. 332 pages. Price \$5.00.

The Power of Sexual Surrender. By MARIE N. ROB-INSON, M.D., Doubleday & Company, Garden City, New York. 1959. 263 pages. Price \$4.50.

Carcinogenesis. Mechanisms of Action. Ciba Foundation Symposium. Editors for the Ciba Foundation G. E. W. Wolstenholme, O.B.E., M.A., M.B., B. Ch., and Maeve O'Connor, B.A. Little, Brown and Company, Boston. 1959. xii-336 pages. With 48 illustrations. Price \$9.50.

Insulin Treatment in Psychiatry. Proceedings of the International Conference on the Insulin Treatment in Psychiatry held at the New York Academy of Medicine, October 24-25, 1958. Edited by Max Rinkel, M.D., Boston, Massachusetts, and Harold E. Himwich, M.D., Galesburg, Illinois. Philosophical Library, New York. 1959. xxix-386 pages. Price \$5.00.

The Modern Family Health Guide. Edited by Morris Fishbein, formerly Editor, Journal of the American Medical Association; Editor, Excerpta Medica; Medical Editor, Britannica Book of the Year. Doubleday & Company, Garden City, New York. 1959. xviii-1001 pages. Price \$7.50.

A Cookbook for Diabetics. Recipes from the Ada Forecast. By DEACONNESS MAUDE BEHRMAN, published by the American Diabetes Association, New York. Edited by Leonard Louis Levinson. 1959. 171 pages. Price \$1.00.

A Doctor's Life of John Keats. By WALTER A. WELLS, M.D., Vantage Press, New York. 1959. 247 pages. Price \$3.95.

A History of Neurology. By WALTHER RIESE, M.D., Associate Professor Psychiatry and Neurology; Associate Professor of the History of Medicine; Chairman of the Department of the History of Medicine, Medical College of Virginia, Richmond. Foreword by Felix Marti-Ibanez, M.D., New York. MD Monographs on Medical History Number Two. MD Publications, Inc., New York. 1959. 223 pages. Cloth. Price \$4.00.

As in his other notable books, *The Conception of Disease*, *Principles of Neurology* and *La Pensée Morale en Médecine*, the author again in this History of Neurology brings us instantly face to face with the major achievements, problems and character of his subject.

Upon completing the book, one cannot escape a sense of liberation from the weighty trappings of both antiquated historical presentations and obsolete mechanistic and diagrammatic pedagogy of recent neurology. This entirely fresh approach is nevertheless paradoxically faithful to traditional medical concepts in its emphasis on the medical history, genesis of symptoms, diagnosis, prognosis and therapy. The author in chapters on the history of the nervous im-

pulse, on the reflex action and especially on the doctrine of cerebral localization presents documented evidence of the diverse paths of development these concepts took. Dr. Riese has an uncanny facility for deriving the essence of an author's thought and its underlying philosophical implications and he often expresses it in a single meaningful word or phrase. Thus we learn of Hughlings Jackson's "compensation" (understood to be simply the continuation of function despite a destroying lesion) as compared to the recent precarious idea of "taking over" of functions in recovery by brain structures never used before for the lost function. Again we move from Aristotle's "small changes" to Brown-Séquard's "distance reactions" and to Monakow's "diaschisis".

This teaches and assists us to look beyond the merely clinical and therapeutic techniques to find the really essential and meaningful contributions of an author. Dr. Riese represents the ultimate of modernity in his relating and synthesizing medico-scientific problems with philosophico-metaphysical problems. Thus the author begins with the interpretation of the nervous system by the ancients on purely metaphysical grounds, moving then to the ancient and recent versions of the doctrine of the seat of the soul, and finally to the problem of mind-body relationship in terms of contemporary science. The author openly acknowledges the intensely personal character of an historical work as he shows the undulations of medical thought which have swung from the most idealistic to the most materialistic ideas about human sensation and movement. He shows in this book the path his own school of thought has taken toward recognizing both the greatness as well as the limitations of human intelligence, advising us where to connect and where to disconnect science and man. He always leaves room for better understanding the problems of man asserting that observations of history as well as experimentation teach that functions use the structures but are not generated by them. Finally, quoting Kant, he points out the fallacy of assuming the residence of thought in a particular brain locus since this would mean the soul "would have to make itself the object of its own intuition and would place itself outside itself".

By so doing the author denies to the reader his "handy formulas" thus forcing us to face "the deeper problems implied in the interrelation of mind and matter".

This work illustrates that through the discipline of neurology it is possible to find a better "understanding of man, his vital manifestations and behavior under conditions we describe as his diseases". It does this by tracing in an orderly fashion the development of dynamic, fundamental concepts that have shaped neurology and by this emphasis it disestablishes the shallower aspects of anatomico-materialistic trends. In fact it elevates man ultimately as the master of life and does not condemn him to be victimized by the limitations of a single organ—the central nervous system—in health and disease. As a consequence, the physician reader will be stimulated to exercise his intellectual freedom thus profiting greatly by his experience of clear and logical analysis as he reads this book.

The book is appended with lists of journals specializing in neurology and neurological societies and associations. An excellent chronology of selected eminent neurologists, their main contributions with correlations to major events in world history is also given. This chronology supports the theme of the main work and does not pretend to name every eminent and worthy neurologist unless his contributions were significant to the development of the *concepts* (not clinical applications) of neurology.

The book is recommended reading for physicians especially neurologists, and for medical historians.

GEORGE E. ARRINGTON, JR., M.D.

The Sedimentation Rate of Human Erythrocytes. Its Basic Concepts. Its Value as a Differential Diagnostic Agent. Its Multiple Clinical Applications. By FRANK WRIGHT, M.D., F.A.C.P., F.A.S. Vantage Press, New York. 1959. 43 pages. Cloth. Price \$2.50.

I feel that this book would be of little interest to physicians. It is poorly written, and very little of the book is devoted to a discussion of the sedimentation rate. Most of the book is filled with extraneous material and contains many statements which I believe to be inaccurate.

ROBERT S. BOATWRIGHT, M.D.

Woman's Auxiliary . . .

President----- Mrs. Walter A. Porter, Hillsville
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Biographical Sketch



MRS. WALTER ALBERT PORTER, *President*
Woman's Auxiliary

Virginia McMillan Porter, Hillsville, the wife of Dr. Walter Albert Porter, was born at Nathans Creek, Ashe County, North Carolina, the daughter of Manley Eugene McMillan, of Ashe County and Rosa Eudora Hash, of Fox, Grayson County, Virginia, the third of five children. In early childhood her parents moved to Galax, where she attended grammar and high school. She graduated from Radford State Teachers College, receiving a Bachelor

of Science degree, and taught in the elementary schools of Virginia and North Carolina until 1934 when she was married to Dr. Porter at Lexington, Virginia.

Dr. and Mrs. Porter located in Hillsville soon after their marriage and since that time he has been engaged in the general practice of medicine. They have two attractive daughters: Patricia Anne, who graduated from Salem Academy, Winston-Salem, North Carolina, and is now a senior at Virginia Polytechnic Institute where she is majoring in Home Economics with specialization in Nutrition and Dietetics and is active in campus activities and organizations. Suzanne Lee, who was President of the Student Body and an Honor Graduate of Salem Academy, is a sophomore at Duke where she is pursuing a scientific course and is a member of Delta Delta Delta sorority, Sandals, and other campus groups.

Sharing with her husband an intense interest in community and medical affairs, Mrs. Porter organized the Woman's Auxiliary to the Southwestern Virginia Medical Society in 1950, served as its first President, and has continued her interest in its progress by serving continually on its Board.

In the State Auxiliary she has served on the Board as Today's Health Chairman, Councilor to the Southern Medical Auxiliary 1956-1958, during which service she brought recognition to our State by receiving honorable mention in the State-wide observance of Doctor's Day in 1957 and in 1958 received first place for this observance and also first place for the best State Exhibit, and President-Elect 1958-1959.

Mrs. Porter is active in the Presbyterian Church, having served as teacher, President of the Women of the Church, District Chairman, Presbyterial President, received Honorary Life Membership in recognition of her service, Chairman of Synodical Committee on Stewardship, Secretary to Board of Trustees of Children's Home and served on Board of Trustees of Conference Grounds of Abingdon Presbytery.

She is also active in other organizations, having been Organizing Regent of Appalachian Trail Chapter, D. A. R., and is now serving as Director of State District IV, D. A. R., Past Matron of Hillsville Chapter, and Grand Representative from Vir-

ginia to the State of New York Grand Chapter, Order of the Eastern Star, and Past-President of the Hillsville Woman's Club.

She lends her talent and untiring efforts to any cause that stands for the upbuilding of the community and improving the fortune of her fellowman. She is a gracious hostess, a fine homemaker, and has among her hobbies sewing and the collection of old china and glass.

Richmond.

The Auxiliary to the Richmond Academy of Medicine opened the year on September 18th with luncheon and an orientation program in our new meeting place, the First Presbyterian Church on Cary Street Road.

Program chairmen, Mrs. Harold Goodman, Mrs. William M. Lordie, and Mrs. William F. Maloney, had prepared a skit, "Medical Auxiliary in Review", to acquaint members with the work of the officers and committees. The program opened with an hilarious monologue—a parody on clubwomen, by Mrs. Maloney. Following this, we were shown the inspirational movie, "Helping Hands for Julie", which demonstrated the many and varied members of a

big hospital staff who participate in the diagnosis, care and rehabilitation of a patient. This is one of the movies shown our future nurses groups.

Volunteers were called for to sit in the Cancer Booth at the State Fair.

Two new members were introduced: Mrs. Philip Jones and Mrs. Robert O. Hudgens.

EDITH V. HAWKINS.

Northampton-Accomac.

The Auxiliary to the Northampton-Accomac Medical Society held its July meeting at the home of Mrs. John R. Freeman in Cape Charles. There were sixteen members and one guest present, and Mrs. R. K. Brown, president, presided.

The slate of officers for 1960 was presented as follows:

President—Mrs. W. C. Henderson

Vice President and President-Elect—Mrs. Milton Kellam

Secretary—Mrs. W. F. Bernart

Treasurer—Mrs. John R. Hamilton

CATHERINE R. TROWER (MRS. E. HOLLAND)

Chairman, Press and Publicity

Chest Blow May Start Arrested Heart

A fast blow on the chest may start a heart beating after it has suddenly stopped. Writing in the July 11 *Journal of the American Medical Association*, Dr. John T. Brandenburg, Medford, reported a case of cardiac arrest—in which the heart suddenly stops for no apparent reason—that was treated by three strong blows on the left side of the chest.

The most frequently reported means of treating cardiac arrest is by opening the chest and massaging the heart. However, this must be done within four minutes. If the brain is without blood for more than four minutes, irreparable damage will occur.

Dr. Brandenburg's patient was a 64-year-old man who suffered a heart attack on the golf course. Shortly after he arrived at the hospital, he suddenly announced that he was "passing out". No pulse could be felt and heart tones that had been clearly heard a minute before were absent. "A diagnosis

of death due to cardiac arrest was made and thoughts of immediate thoracotomy were entertained." However, he remembered that other doctors had advised chest blows, and he struck three blows with his clenched fist.

"Just after the third blow, to my delighted surprise, a strong, but very irregular pulse was felt which soon became regular."

The total period of cardiac arrest was less than one minute. About 10 seconds after the return of his pulse, the patient regained consciousness with the comment, "I must have passed out."

The patient was treated routinely and recovered uneventfully.

Dr. Brandenburg recommended that a chest blow first be tried in cases of cardiac arrest. If there is not an immediate response, other methods should then be tried.

New President

DR. ALLEN BARKER was born in Pittsylvania County in 1903. In childhood he moved with his family to Waco, Texas, but they returned to Virginia a few years later. His early education was obtained in the public schools of Virginia and Texas and his high school education was obtained at Mars Hill College, North Carolina. After receiving his premedical education at Furman University, he entered the Department of Medicine of the University of Virginia and was graduated in 1929.



WILBUR ALLEN BARKER, M.D., *President*
The Medical Society of Virginia

As a student he was a member of Phi Beta Pi Medical Fraternity, the Raven Society, and the Alpha Omega Alpha Honorary Medical Fraternity. During the next four years he served a rotating internship in the University Hospital and completed a residency in the Department of Radiology. In 1932 he married Miss Emily Pugh of Charlottesville. The following year the Barkers moved to Petersburg where Dr. Barker was associated with Dr. Wright Clarkson in the private practice of radiology. He was certified by the American Board of Radiology in 1936. In 1939 he moved to Roanoke to assume the position of radiologist at the Lewis-Gale Hospital following the death of the late Dr. Joseph T. McKinney.

This same year he formed a partnership for the practice of radiology with the writer, a medical school friend who had located in Roanoke in 1930. Dr. Barker was commissioned as a medical officer in the A. U. S. in 1942, served as Chief of Radiology at Fletcher General Hospital, Cambridge, Ohio, and as Chief of Radiology of the 315th General Hospital in the Philippine Islands. He was discharged with the rank of Lieutenant Colonel. After serving as an alternate delegate to the AMA House of Delegates from 1955 to 1957 he served as a delegate from 1957 to 1959. Dr. Barker has served on the Board of Directors of the Roanoke Community Fund and is now a Director of the Lewis-Gale Hospital and the Medical Arts Building Corporation. He is a senior partner in the radiological group of Drs. Peterson, Barker and Smith and, in addition to being Director of the Department of Radiology at the Lewis-Gale Hospital, he is also on the staffs of the Jefferson Hospital, the Roanoke Memorial Hospital and the Shenandoah Hospital and consultant for the Veterans Administration Regional Office. He is a member of the American Medical Association, the Southern Medical Association, the Southwestern Virginia Medical Society, the American Roentgen-Ray Society and the Radiological Society of North America and is a fellow of the American College of Radiology. He is a past-president of the Roanoke Academy of Medicine and the Virginia Radiological Society. The Barkers are members of St. John's Episcopal Church. He is a member of the Roanoke Kiwanis Club, Roanoke Country Club, Farmington Country Club and the Shenandoah Club.

The Barkers have two children. Miss Sandra Barker is a second year student at Mount Vernon Junior College in Washington and Billy, age ten, is a student in elementary school. Dr. Barker is a lover of sports and has been active in golfing, hunting, fishing and boating. For the past few years he has limited his physical activities somewhat and now devotes time to instructing his son, Billy, in these and other sports.

It is hoped that the coming year may be one of happiness for our new president and that under his leadership The Medical Society of Virginia may continue to advance and progress as it has under the guidance and leadership of those who have preceded him.

CHARLES H. PETERSON, M.D.

Society Activities

Prince William County Medical Society.

This Society was organized on September 12th by a group of physicians and surgeons at Lake Jackson Lodge in Manassas. Dr. Alvin E. Conner, Manassas, was elected president; Dr. Alfred J. Ferlazzo, Triangle, vice-president; and Dr. M. L. Nafzinger, Woodbridge, secretary-treasurer. Sixteen charter members formed the new society. One of the most important points was that it would be the first step in providing the medical organization necessary for setting up the projected Prince William County Hospital. It will also bring closer contact between the physicians in the eastern and western areas of the county.

The formal objectives as outlined by the group are:

To promote continuation of education for the physician.

To provide opportunity for social contact among the physicians.

To promote the medical welfare of the county.

To provide a means for expressing the unified opinion of the physicians.

To improve the public relations of the medical profession.

Medical Association of Valley of Virginia.

At the meeting of this society in Waynesboro on September 24th, Dr. D. E. Watkins, Waynesboro,

was elected president; Drs. C. I. Sease, Harrisonburg, Thomas G. Bell, Staunton, and James L. Davis, Waynesboro, vice-presidents; Dr. W. B. Crawford, Woodstock, secretary; and Dr. C. F. Gaylord, Staunton, treasurer.

Dr. Julian Beckwith, University of Virginia, was guest speaker, his subject being Treatment of Cardiac Emergencies.

Roanoke Academy of Medicine.

The first meeting of the Academy was held on October 12th. Reports of the standing committees for the previous year's activities were heard and after this the following officers for the new year were inducted:

President—Dr. William H. Kaufman

Vice-president—Dr. Robert S. Hutcheson, Jr.

Secretary-treasurer—Dr. James G. Snead

The outgoing officers were Dr. Alexander McCausland as President and Dr. Robert F. Bondurant as Secretary-treasurer. Dr. Kaufman's very excellent and detailed presidential address was concerned with some of the problems facing the medical profession from the political, economical and social fronts. He also expressed hope that improved press and public relations could be achieved.

JAMES G. SNEAD, M.D.

Secretary-Treasurer

News Notes

New Officers of The Medical Society of Virginia.

The annual meeting of The Medical Society of Virginia in Roanoke, October 4-7, is past history now. However, it leaves pleasant memories of a most cooperative local committee and hotel. Nothing was left undone and everyone seemed to have a wonderful time.

There was a registered attendance of nine hundred and eighty-eight, including six hundred and forty members, two hundred and six members of the Woman's Auxiliary and one hundred and forty-two exhibitors.

Dr. Allen Barker, Roanoke, succeeded Dr. Walter P. Adams, Norfolk, to the presidency. Dr. Guy W. Horsley, Richmond, was named president-elect; Drs. R. S. Hutcheson, Roanoke, Russell Buxton, Newport News, and Mallory S. Andrews, Norfolk, vice-presidents; and Robert I. Howard re-elected executive secretary-treasurer. Drs. Linwood Ball, Richmond, and Allen Barker were re-elected as delegates to the American Medical Association; with Drs. Buxton and W. C. Salley, Norfolk, as alternate-delegates. Councilors from the odd numbered districts were named as follows: 1st—Dr. Paul Hogg, Newport News; 3rd—Dr. Thomas W. Murrell, Jr.,

Richmond; 5th—Dr. W. N. Thompson, Stuart; 7th—Dr. Dennis P. Carty, Front Royal; and 9th—Dr. W. Fredric Delp, Pulaski.

Minutes of this meeting will appear in the December issue of the Monthly.

The 1960 annual meeting will be held at Virginia Beach, October 9-12. It's not too soon to begin making your plans to attend.

New Members.

Since the list published in the September issue of the Monthly, the following have been admitted into membership in The Medical Society of Virginia:

Wasfi A. Atiyeh, M.D., Richmond
Donald Wright Barnes, M.D., Roanoke
Phillips R. Bryan, M.D., Lynchburg
Donald Morris Callahan, M.D., Bayside
David Jameson Crawford, M.D., Waynesboro
Ralph Lester Eslick, M.D., Marion
Edward Watts Gamble, III, M.D., Radford
Jack Stiles Garrison, M.D., Norfolk
John Thomas Hearn, M.D., Penn Laird
Lewis Winston Holladay, M.D., Richmond
Janet Haldane Coleman Kimbrough, M.D., Williamsburg
Antonio Fulvio Palmieri, M.D., Richmond
Hugh V. Sickel, M.D., McLean
Bobby Long Smith, M.D., Princess Anne
Howard Elbert Sturgeon, M.D., Princess Anne
Nelson Monroe Tart, M.D., Falls Church
Samuel Albert Tisdale, Jr., M.D., Fairfax
Harmen van der Woude, M.D., Vienna
George Henri van Driem, M.D., Toano

A.M.A. Clinical Meeting.

The American Medical Association's 13th clinical meeting will be held December 1-4 in Dallas, Texas. An attendance of some 3,500 physicians is expected. Planned in cooperation with Dallas physicians, the meeting is designed to help the family physician meet his daily practice problems.

Among the subjects to be discussed on the scientific program are soft tissue injury; whiplash injuries of the neck; diabetes; heart murmurs in children; new laboratory procedures; new resuscitation techniques; premarital and marital counseling; and the problem child.

The scientific program, including lectures, symposiums, medical motion pictures, color television, and nearly 100 scientific exhibits, will be held in the Dallas Memorial Auditorium. There will also be 251 industrial exhibits.

Stuart McGuire Professorship.

In the future, the head of the department of surgery of the Medical College of Virginia will be designated "The Stuart McGuire Professor", in tribute to Dr. McGuire. Announcement of this was made at the annual convocation of the College. Dr. McGuire was one of the leading figures in the development of the College and hospital. He was professor of surgery from 1913 to 1922, president of the former University College of Medicine and then dean of the College until 1919. He was president from 1919 to 1925 and chairman of the Board of Visitors from 1932 until his death in 1948.

The surgeon's chair and desk will be presented to the College by the staff of McGuire Clinic and St. Luke's Hospital. They will be placed in the Stuart McGuire professor's office.

92 Years Young.

Dr. Halstead S. Hedges, Charlottesville, recently celebrated his ninety-second birthday by going to his office just as he has for the past sixty-two years. He graduated in medicine from the University of Virginia in 1892.

Southern Medical Association.

The 53rd annual meeting of this Association will be held in Atlanta, November 16-19, under the presidency of Dr. Milford O. Rouse of Dallas, Texas.

Dr. William E. Moody,

Scottsville, has been elected surgeon general of the national Veterans of Foreign Wars organization. He is a past president of the Virginia VFW.

Dr. B. T. Painter,

Who for some time has been associated with Kecoughtan Veteran's Hospital in Hampton, has returned to Williamsburg for the private practice of medicine.

Norfolk and Western Surgeons.

At the annual meeting of the Norfolk and Western Railway Surgeons Association, held at the Hotel Chamberlin in September, Dr. Harry Hayter, Abingdon, was elected president. Dr. Allen Barker, Roanoke, was named secretary.

Postgraduate Course.

The Department of Ophthalmology of the Emory University School of Medicine announces a postgraduate course in Applied Ophthalmic Pathology

on December 3-4 at the Grady Memorial Hospital, Atlanta, Georgia. Guest lecturers will be Dr. Lorenz Zimmerman of the Armed Forces of Pathology, Washington, D. C.; Dr. T. E. Sanders, Washington University, St. Louis; Dr. J. A. C. Wadsworth of Columbus Presbyterian Medical Center, New York; and Dr. J. T. Godwin of Atlanta.

Dr. William W. Old, III,

Is now associated with Dr. Robert P. Irons, Lexington, in the practice of general surgery. He has been in practice in Norfolk for the past four years.

Dr. William B. Crawford,

Woodstock, has been elected president of the Shenandoah County Unit, American Cancer Society, Virginia Division.

State Health Department News.

New directors for several local health districts in Virginia have been announced by Dr. A. L. Carson, Jr., Director of the State Health Department's Division of Local Health Services. The appointments are effective October 1.

Dr. W. P. Wagner will replace Dr. E. C. Gates as Director of the health district which includes Amelia, Chesterfield and Powhatan counties.

Dr. Gates will be director of the Dinwiddie-Prince George-Surry-Sussex health district. He will replace Dr. W. R. Ferguson, who is leaving for a year's post graduate study in public health at Tulane University.

Dr. H. J. Rittner will replace Dr. Wagner as director of the Isle of Wight-Nansemond-Southampton-Suffolk health district. Dr. Rittner has been assistant director of the health district which includes Norfolk and Princess Anne counties and South Norfolk and Virginia Beach.

Dr. W. H. Keeler will fill the vacant position of director of the Charles City-James City-New Kent-York-Williamsburg health district, which was caused by the death of Dr. Farley.

American Board of Obstetrics and Gynecology.

The Part I Examinations of the Board are to be held in various parts of the United States and Canada on January 16, 1960.

Candidates notified of their eligibility to participate in Part I must submit their case abstracts within thirty days of notification of eligibility. No

candidate may take the Written Examination unless the case abstracts have been received in the office of the Secretary.

Current Bulletins outlining present requirements may be obtained by writing the secretary, Robert L. Faulkner, M.D., 2105 Adelbert Road, Cleveland 6, Ohio.

Dr. John L. Harris, Jr.,

Roanoke, has been named medical advisor to the Virginia Association of Rescue Squads. He is senior medical advisor to the Roanoke Life Saving Crew and is an active member of the Crew.

Dr. Ann H. Williams,

Recently practicing in McKenney and Blackstone, began the practice of pediatrics in Virginia Beach on October 15th. She will be associated with Dr. Kathryn R. Hill and Dr. Robert Venner.

Locum Tenens Available.

Physician, Virginia license, general practice experience, available for locum tenens or temporary position, until January 1960. Write #675, care Virginia Medical Monthly, 4205 Dover Road, Richmond 21, Virginia. (*Adv.*)

Wanted.

One male psychiatrist, under 50 years, Diplomate or Board eligible, to direct privately operated outpatient clinic in Charleston, West Virginia. Salary: \$20-\$25,000 per annum. Write #625, care the Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia. (*Adv.*)

Residency Available

In Physical Medicine and Rehabilitation. Affiliated with Medical College of Virginia; our residents have some of their training there. Salaries: Career, \$6505 to \$9808 p.a.; Regular, \$3250 to \$4165 p.a. Apply: Manager, Veterans Administration Hospital, Richmond 19, Virginia. (*Adv.*)

Neurology Residencies,

Career and regular, available on active Service. Two neurologists and attending neurologists on staff. Affiliated with two medical schools. Opportunity for teaching, research, and diversified program. Apply: Manager, Veterans Administration Hospital, Richmond 19, Virginia. (*Adv.*)

Obituaries . . .

Dr. Emmett Francis Reese,

Well-known physician of Courtland, died September 25th, at the age of eighty-two. He graduated from the Medical College of Virginia in 1899 and had practiced in Southampton County since that time. Dr. Reese was a member and past president of the Courtland Ruritan Club and was also a Mason. He was the owner of the Reese Drug Store in Courtland and was active in its management until his death. Dr. Reese was a Life Member of The Medical Society of Virginia, having joined in 1899.

A son, Dr. Emmett F. Reese, III, also of Courtland, survives him.

Dr. Elisha Leavensworth McGill,

Petersburg, died October 4th, at the age of eighty-four. He was a life long resident of Petersburg and received his medical degree from Columbia University, New York, in 1901. Dr. McGill served as the city's medical examiner for a number of years. He was a captain in the army medical corps during World War I. Dr. McGill was a member of the Fifty Year Club of The Medical Society of Virginia, having joined the Society in 1905.

His wife and a daughter survive him.

Memorial to Dr. Vinson

Dr. Porter P. Vinson died on August 29, 1959, of coronary sclerosis and coronary insufficiency at the Mayo Clinic, Rochester, Minnesota. Six days earlier, resection of an abdominal aneurysm had been performed.

From 1936 until his death, he headed the Department of Broncho-Esophagology at the Medical College of Virginia. Because of his acknowledged leadership in this field, he played an important role in the development of Richmond as a major medical center. Besides many monographs, he was author of a text book, "Diseases of the Esophagus", and contributed sections to "Diseases of the Digestive System", (Portis) and "The Chest and Heart", (Meyers).

Dr. Vinson was born in Davidson, North Carolina on January 24, 1890, and attended Davidson College where he received the degree of Bachelor of Arts in 1909, and a Master of Arts in 1910. In 1925, Davidson College awarded him the honorary degree of Doctor of Science. He received his Medical Degree from the University of Maryland Medical School. He then interned at Montreal General Hospital and at Trudeau Sanatorium.

He joined the Mayo Foundation in 1916, as one of the first Fellows in Medicine at that institution. In 1919, he was appointed to the staff of the Mayo Clinic as a Consultant in Medicine with special interest in diseases of the chest and esophagus. He joined with Dr. Henry S.

Plummer in the development of endoscopic examinations of the air and food passages, and he made major contributions to this field of medicine during his stay at the Mayo Clinic. During his association with Dr. Plummer, a pattern of disease was described that has since been referred to as the Plummer-Vinson Syndrome. He developed a national and international reputation while on the staff of the Mayo Clinic and until the time of his death, patients were referred to him from all sections of this country for his advice and skill in diseases of the bronchus and esophagus.

He became a member of the faculty of the Medical College of Virginia in 1936, and was extremely active in the teaching program of that institution. He was especially gifted in the teaching of undergraduate and graduate students in his specialty, and with his enthusiasm, he became a most valuable member of the teaching staff of the Medical College of Virginia.

He was certified as a specialist in internal medicine in 1937 by the American Board of Internal Medicine. He was a Fellow of the American College of Physicians, the American Medical Association, the American Broncho-Esophagological Association. He also was a member of the Southern Medical Association and the American Association for Thoracic Surgery. He was a member of Phi Beta Kappa, the Society of Sigma Xi, the Nu Sigma Nu and Beta Theta Pi Academic Fraternity. While he was in Rochester he served as president of the Rochester Kiwanis Club and in 1940, he was president of the Mayo Foundation Alumni Association.

Perhaps his most outstanding professional characteristics, in addition to his obvious great technical skill in his chosen specialty, were a deep and genuine sincerity in everything he did, and complete and outstanding intellectual honesty in all his professional relationships with his fellow physicians and his patients. Another memorable characteristic of Dr. Vinson's was his willingness, and indeed eagerness, always to explain in great detail what he was trying to do to benefit the immediate medical problem.

Added to all this, was a really unique and highly developed sense of humor, as all his colleagues and patients will recall who have enjoyed many times his unusual skill as a raconteur.

In the death of Dr. Porter Vinson, the Richmond Academy of Medicine has lost a most valuable member, and the medical profession of this country has lost one of its most learned and skilled members. A physician of the stature of Dr. Vinson cannot be replaced. Those of us who knew and admire Dr. Vinson will always be grateful for the privilege of knowing and working with such a remarkable man.

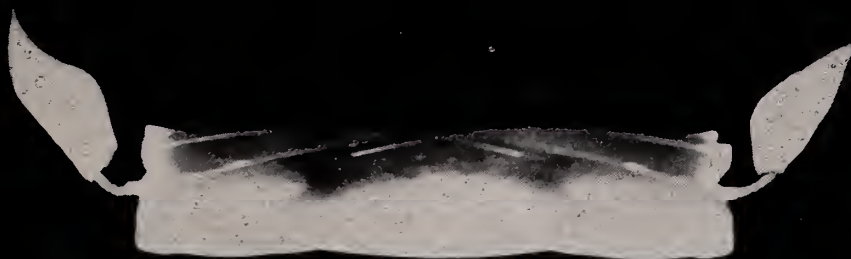
This committee recommends that a copy of this memorial be spread upon the minutes of the Richmond Academy of Medicine, a copy sent to the Virginia Medical Monthly, and a copy sent to the bereaved family.

W. E. PEMBLETON, M.D., *Chairman*

EDWARD S. RAY, M.D.

JOHN M. MEREDITH, M.D.

When the vagus burns at both ends



Pro-Banthine® with Dartal® moderates both mood and gastrointestinal spasm

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Pro-Banthine with Dartal contains two agents required for such dual therapy: Pro-Banthine to control and curtail the flare-ups of spasm, excess acidity and excess motility,

and Dartal to smother simmering anxiety and tension.

Pro-Banthine with Dartal contains 15 mg. of Pro-Banthine (brand of propantheline bromide) and 5 mg. of Dartal (brand of thiopropazate dihydrochloride) in each tablet.

Dosage: One tablet three times a day.

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Doctors find the modern facilities and specialized care
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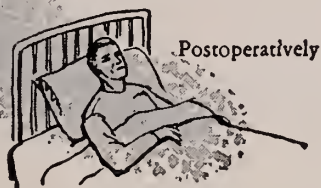
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Debilitating
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Postoperatively

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is excessive

*through vomiting
or diarrhea—*

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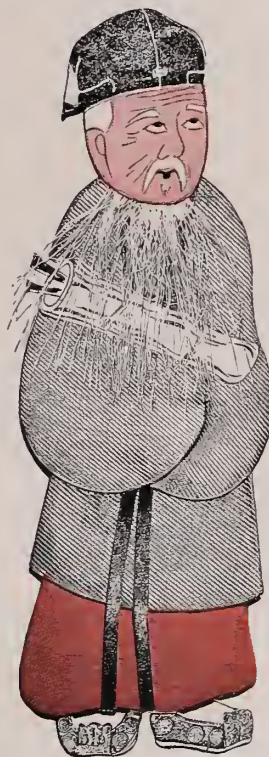
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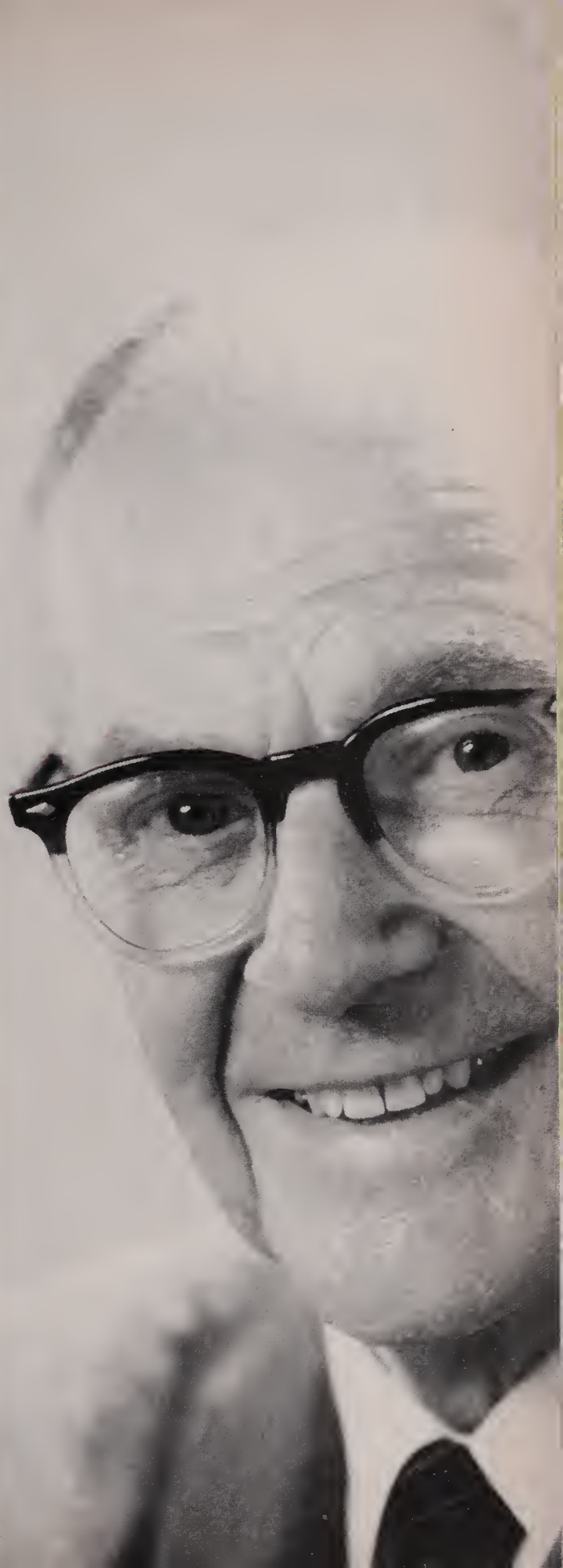
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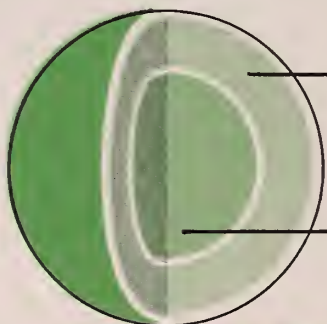
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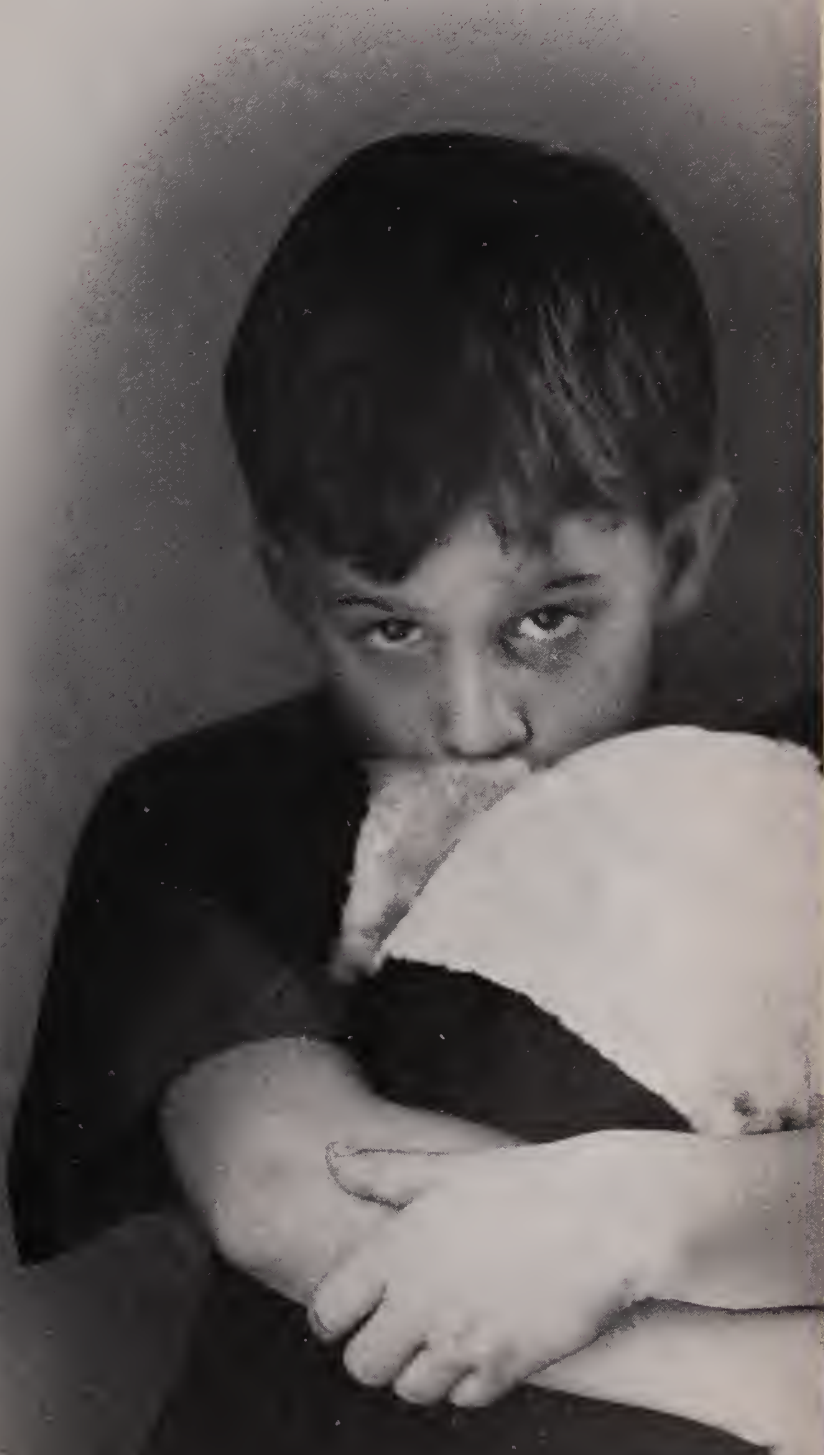
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(1) Beck, J. W.; Saavedra, D.; Antell, G. J., & Tejeiro, B.: *Am. J. Trop. Med.* 8:349, 1959.

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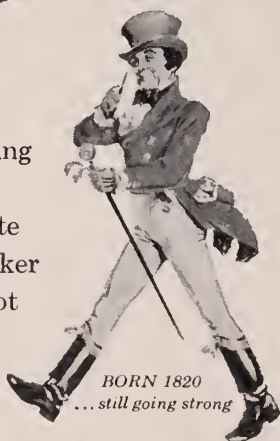
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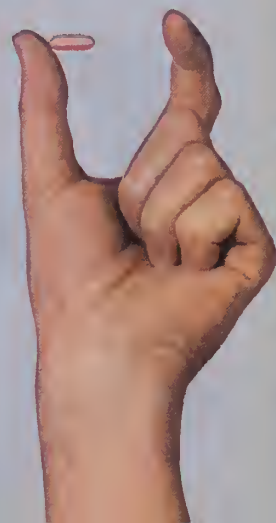
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1. Hirsch, H. A., and Finland, M.: Antibacterial Activity Of Serum Of Normal Subjects After Oral Doses of Demethylchlortetracycline, Chlortetracycline and Oxytetracycline. *New England J. Med.* 260:1099 (May 28) 1959. 2. Hirsch, H. A., Kunin, C. M., and Finland, M.: Demethylchlortetracycline — A New And More Stable Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Activity. To be published. 3. Lichter, E. A., and Sobel, S.: The Distribution Of Oral Demethylchlortetracycline In Healthy Volunteers And In Patients Under Treatment For Various Infections. To be published. 4. Kunin, C. M., Dornbush, A. C. and Finland, M.: Distribution And Excretion Of Four Tetracycline Analogues In Normal Young Men. To be published. 5. Kunin, C. M., and Finland, M.: Demethylchlortetracycline: New Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Capacity. *New England J. Med.* 259:999 (Nov. 28) 1958. 6. Sweeney, W. M.; Hardy, S. M.; Dornbush, A. C., and Rueggesser, J. M.: Demethylchlortetracycline: A Clinical Comparison of A New Antibiotic with Chlortetracycline and Tetracycline. *Antibiotics & Chemotherapy* 9:13 (Jan.) 1959.

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PATHIBAMATE-200—Each tablet (yellow, coated) contains meprobamate, 200 mg.; **PATHILON** tridihexethyl chloride, 25 mg.

Administration and Dosage: **PATHIBAMATE-400**—1 tablet three times a day at mealtime and 2 tablets at bedtime.

PATHIBAMATE-200—1 or 2 tablets three times a day at mealtime and 2 tablets at bedtime.

Adjust dosage to patient response.

Contraindications: glaucoma; pyloric obstruction, and obstruction of the urinary bladder neck.



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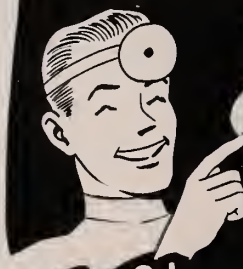
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NEW PINEAPPLE FLAVOR Overwhelmingly selected by a taste panel.

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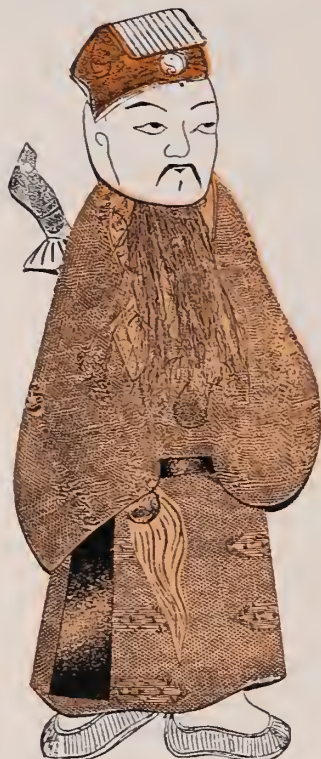
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"Whatever else may be needed from time to time in the management of individual cases, these drugs [Plaquenil and Aralen] should always be given in a prolonged trial (at least six months) as the 'mainstay' of therapy."

Bagnall, A. W. (Univ. British Columbia, Vancouver, B.C.): A.M.A. Clinical Meeting (Scientific Section, Exhibit No. 124), Minneapolis, Minnesota, Dec. 2-5, 1958.

"The 4-aminoquinoline drugs (Plaquenil and Aralen) together with supplemental agents administered in nontoxic doses effectively maintained suppression of the disease in 83 per cent of 194 patients followed for 18 months."

Scherbel, A. L.; Harrison, J. W., and Atdjian, Martin: Cleveland Clin. Quart. 25:95, April, 1958.

"When used in tolerated dosage and over a sufficient period of time, there appears to be a tremendous therapeutic potential in the antimalarial drugs. . . . Plaquenil in this study did not have as many side effects as Aralen and thus appears to be a more practical compound."

Cramer, Quentin (Kansas City): Missouri Med. 55:1203, Nov., 1958.

Plaquenil (brand of hydroxychloroquine) and Aralen (brand of chloroquine), trademarks reg. U.S. Pat. Off.



Plaquenil is the hydroxy derivative of Aralen[®] and is available as Plaquenil sulfate in tablets of 200 mg. (bottles of 100).

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INITIAL—400 to 600 mg. (1 tablet 2 or 3 times daily)

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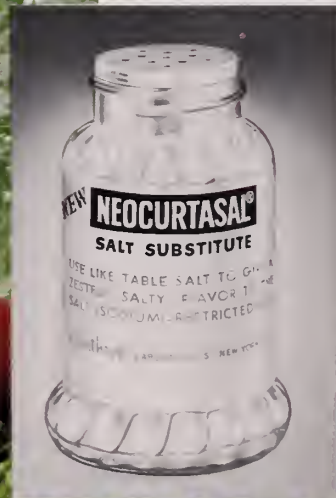
*An excellent salt replacement for
Salt Free (LOW SODIUM) Diets*

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(Excerpted from J.A.M.A., Aug. 29, 1959)



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To be effective, a diet must be *eaten* by the patient. The majority of housewives prefer Wesson,* particularly by the criteria of odor, flavor (blandness) and lightness of color.

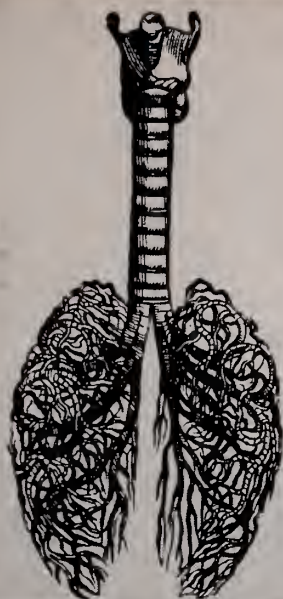
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treatment of
upper respiratory disorders

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TABLETS (new!) and LIQUID

SULTUSSIN triple sulfonamides add their antibacterial power to your choice of antibiotic to . . .

- help prevent and clear up secondary infections faster and more effectively
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SULTUSSIN simultaneously affords maximum relief from sneezing, stuffed or runny nose, cough, wheezing, malaise, slight fever, and other distressing symptoms of the severe common cold, coughs, influenza, etc.

antibacterial chemoprophylaxis • expectorant
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raspberry
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tablets and
pleasant
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liquid
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Supplied:
Liquid in 4 ounce
and pint bottles.
Tablets, bottles
of 50 and 100.

	Each tablet provides:	Each teaspoonful (5 cc.) provides:
Sulfadiazine	0.083 Gm.	0.166 Gm.
Sulfamerazine	0.083 Gm.	0.166 Gm.
Sulfamethazine	0.083 Gm.	0.166 Gm.
Pyrilamine Maleate	3.125 mg.	6.25 mg.
Phenyltoloxamine Dihydrogen Citrate	3.125 mg.	6.25 mg.
Glyceryl Guaiacolate	25.0 mg.	50.0 mg.
Ephedrine Sulfate	2.5 mg.	5.0 mg.



PAGE 825

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Easy Administration: Just one or two drops of SKOPYL under the tongue, 20 — 30 minutes before each feeding — or 3 drops for an acute attack of colic.

Fast Action: The rapid absorption of SKOPYL into the blood stream via the sublingual or oral route often gives immediate and dramatic relief of acute abdominal pain characteristic of infant colic.

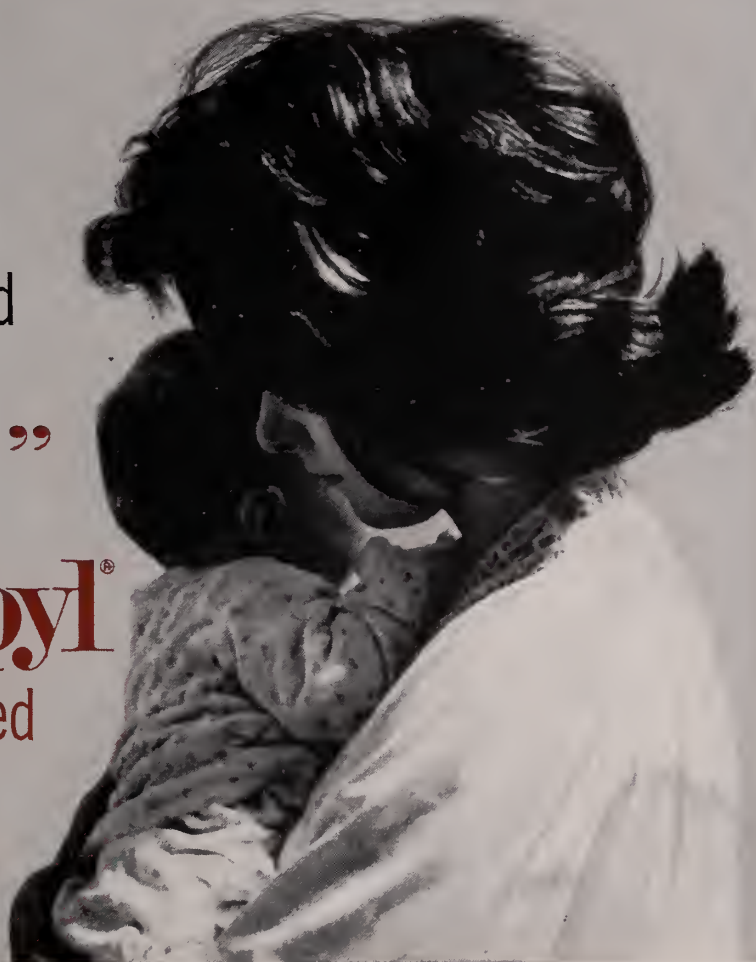
Effective: SKOPYL is more effective because of its selective peripheral action without influence on the central nervous system. Even when there is regurgitation and vomiting, SKOPYL is effective when administered orally or sublingually. During administration of SKOPYL, frequent, loose, and mucoid stools will become firm — often within 24 — 48 hours.

Action and Safety: The main effect of SKOPYL is peripheral. It has a particularly depressant effect on the tonus and motility of smooth musculature of the gastrointestinal tract. Because of SKOPYL's high degree of selective action and favorable therapeutic index, the recommended small volume dose can generally be given with a minimum incidence of side effects.

Indications: Colic (paroxysmal fussing, infantile dyspepsia, irritable crying), infantile vomiting, infantile diarrhea, pyloric spasm. **Precautions:** Fluid balance should be restored in dehydrated infants or those with oliguria before beginning treatment with SKOPYL. Available: 5 cc. dropper bottle.

One drop = 0.6 mg.; 40 drops = 1 cc.

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all
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...but
Skopyl[®]
Methyl Scopolamine Nitrate
stopped
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colic



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wherever there is inflammation, swelling, pain

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BUCCAL Tablets

conditions for a fast & comfortable comeback

Host reaction to injury or local infection has a catabolic and an anabolic phase. The body responds with inflammation, swelling and pain. In time, the process is reversed. VARIDASE speeds up this normal process of recovery.

By activating fibrinolytic factors VARIDASE shortens the *undesirable phase*, limits necrotic changes due to inflammatory infiltration, and initiates the constructive phase to speed total remission. Medication and body defenses can readily penetrate to the affected site; local tissue is prepared for faster regrowth of cells.

In infection, the fibrin wall is breached while the infection-limiting effect is retained. In acute cases, response is often dramatic. In chronic cases, VARIDASE Buccal Tablets can stimulate a successful response to primary therapy previously considered inadequate or failing.

*for routine use in injury and infection
...new simple buccal route*

VARIDASE Buccal Tablets should be retained in the buccal pouch until dissolved. For maximum absorption, patient should delay swallowing saliva.

Dosage: One tablet four times daily usually for five days.

When infection is present, VARIDASE Buccal Tablets should be given in conjunction with ACHROMYCIN[®] V Tetracycline with Citric Acid.

Each VARIDASE Buccal Tablet contains: 10,000 Units Streptokinase and 2,500 Units Streptodornase.

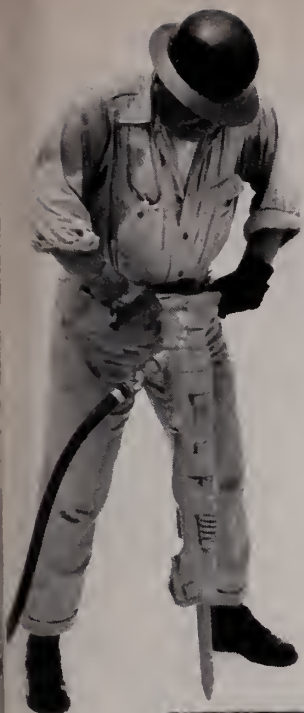
Supplied: boxes of 24 and 100 tablets.

1. Innerfield, I.: Clinical report cited with permission

2. Clinical report cited with permission



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Pearl River, New York



FORCE INJURY
severe bruises
... swelling
... cleared
by fifth day²



**VARICOSE
ULCER**
15 years duration
... resolved with
VARIDASE¹



**INFLAMMATORY
DERMATOSIS**
rapidly spreading
rhhus dermatitis
healed within
a week¹



**INFECTED
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marked reversal
in 3 days...
returned
to school...
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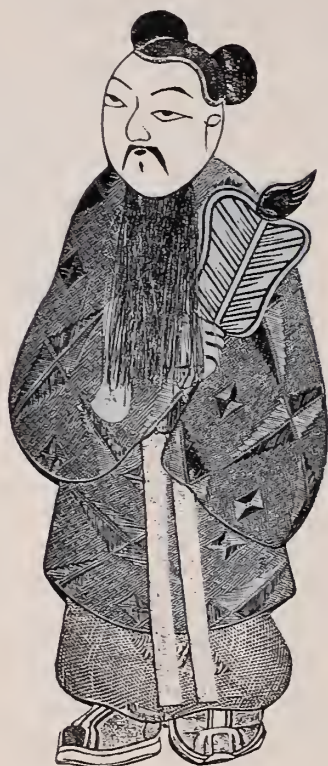
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back on his feet
in a week after
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**REFRACTORY
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normal routine
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This powerful magician revived the souls of the dead with a wave of his fan and gained a lasting place in Taoist legend.

...this pioneer corticosteroid has proved invaluable in treating *millions* of living patients

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with low incidence of sensitivity reactions . . .

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- Exhibits unusual analgesic properties, different from those of any other drug
- Specific and superior in relief of SOMATIC pain
- Modifies central perception of pain without abolishing natural defense reflexes
- Relaxes abnormal tension of skeletal muscle

SOMATM

N-isopropyl-2-methyl-2-propyl-1, 3-propanediol dicarbamate

- More specific than salicylates
- Less drastic than steroids
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SOMA has an unique analgesic action. It apparently modifies central pain perception without abolishing peripheral pain reflexes. **SOMA** is particularly effective in relieving joint pain. Patients say that they feel better and sleep better with **SOMA** than with previously used analgesic, sedative or relaxant drugs.

SOMA also relaxes muscle hypertonia, with its stresses on related joints, ligaments and skeletal structures.

ACTS FAST. Pain-relieving and relaxant effects start in 30 minutes and last 6 hours.

NOTABLY SAFE. Toxicity of **SOMA** is extremely low. No effects on liver, endocrine system, blood pressure, blood picture or urine have been reported. Some patients may become sleepy, particularly on high dosage.

EASY TO USE. Usual adult dose is one 350 mg. tablet 3 times daily and at bedtime.

SUPPLIED: Bottles of 50 white coated 350 mg. tablets.

Literature and samples on request.



WALLACE LABORATORIES, NEW BRUNSWICK, N. J.

avoid the risk of insoluble, irritating aspirin particles

Chief among the drawbacks to aspirin usage is gastric intolerance. This ranges from mild upset and "heartburn" to severe hemorrhagic gastritis.¹⁻¹⁰ Studies performed in conjunction with gastrectomy^{4,5} and gastroscopy² have shown insoluble aspirin particles firmly adherent to

the gastric mucosa and imbedded between rugae. Reactions varying from mild hyperemia to erosive gastritis have been reported to occur in the areas immediately surrounding these adherent particles.^{2,4,5} This is reported to be particularly true in patients with peptic ulcer.⁴

CALURIN is the freely soluble, stable calcium aspirin complex. Its high solubility forestalls gastric irritation or damage



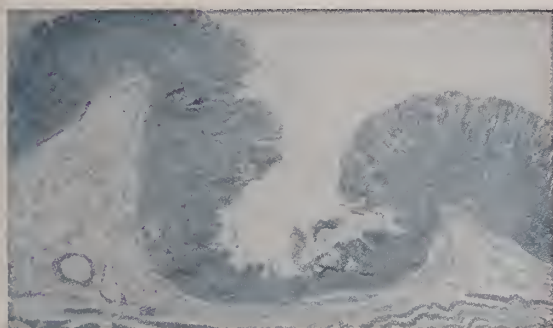
Regular aspirin crystals 24 hours after being mixed into water.



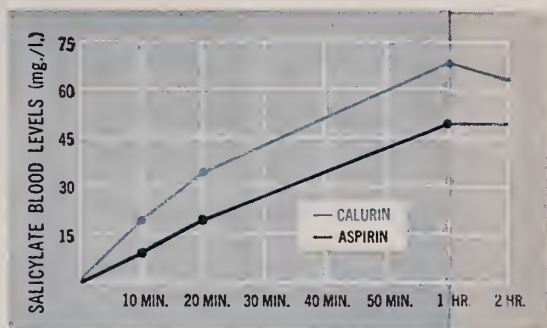
Calurin crystals in solution one minute after being mixed into water.

CALURIN*

STABLE SOLUBLE CALCIUM-ACETYLSALICYLATE-CARBAMIDE



Particle-induced ulceration — section through lesion found in gastrectomy specimen. An aspirin particle was found firmly imbedded in this undermined erosion. Such lesions may be associated with the relative insolubility of aspirin, which remains in particulate form after dispersion in gastric contents.



Calurin, being freely soluble, is promptly available for absorption into the systemic circulation. Salicylate blood levels in 12 subjects receiving both Calurin and plain aspirin were found to rise more than twice as high within ten minutes following Calurin. Also, these levels persisted higher for at least two hours.¹¹

CALURIN is the aspirin of choice, especially when high-dosage, long-term therapy is indicated:

- 1 High solubility forestalls gastric irritation or damage. This advantage is of special importance in arthritis and other conditions requiring high-dosage, long-term therapy.
- 2 Produces high salicylate blood levels rapidly for prompt analgesic, anti-pyretic, anti-arthritic effect.
- 3 Sodium-free — for safer long-term therapy.
- 4 Flavored: can be chewed or dissolved in the mouth without water if desired — an advantage for patients requiring aspirin administration during the night and for pediatric patients.

Dosage: Each tablet of Calurin is equivalent to 300 mg. (5 gr.) of acetylsalicylic acid. For relief of pain and fever in adult patients, the usual dose of Calurin is 1 to 3 tablets every 4 hours, as needed; in arthritic states, 2 or 3 tablets 3 or 4 times daily; in rheumatic

fever, 3 to 5 tablets 4 or 5 times daily. For children over 6 years, the usual dose is 1 tablet every 4 hours; for children 3 to 6 years, ½ tablet every 4 hours, as required. Not recommended for children under 3.

REFERENCES: 1. Waterson, A. P.: Aspirin and gastric haemorrhage, *Brit. M. J.* 2:1531, 1955. 2. Douthwaite, A. H., and Lintott, G. A. M.: Gastroscopic observation of the effect of aspirin and certain other substances on the stomach, *Lancet* 2:1222, 1938. 3. Editorial Comments: The effect of acetylsalicylic acid (aspirin) on the gastric mucosa, *Canad. M. A. J.* 80:47, 1959. 4. Muir, A., and Cossar, I. A.: Aspirin and ulcer, *Brit. M. J.* 2:7, 1955. 5. Muir, A., and Cossar, I. A.: Aspirin and gastric haemorrhage, *Lancet* 1:539, 1959. 6. Schneider, E. M.: Aspirin as a gastric irritant, *Gastroenterology* 33:616, 1957. 7. Bayles, T. B., and Tenckhoff, H.: Salicylate therapy in rheumatic diseases, Scientific Exhibit, Ann. Mtg. A. M. A., San Francisco, Calif., June, 1958. 8. Batterman, R. C.: Comparison of buffered and unbuffered acetylsalicylic acid, *New Eng. J. M.* 258:213, 1958. 9. Cronk, G. A.: Laboratory and clinical studies with buffered and nonbuffered acetylsalicylic acid, *New Eng. J. M.* 258:219, 1958. 10. Editorial: Aspirin plain and buffered, *Brit. M. J.* 1:349, 1959. 11. Smith, P. K.: Plasma concentration of salicylate after the administration of acetylsalicylic acid or calcium acetylsalicylate to human subjects, Report submitted to Smith-Dorsey from Dept. of Pharmacology, Geo. Washington Univ. School of Medicine, Washington, D. C., Sept. 5, 1958.

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NOW... SAFER, EFFECTIVE TRANQUILIZER THERAPY

tranquilization

anti-emetic

greater specificity
of tranquilizing action
—divorced from such
"diffuse" effects as
anti-emetic action
—explains why

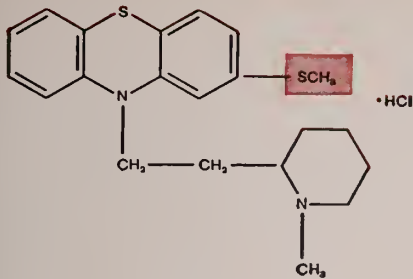
 **Mellaril**[®]

THIORIDAZINE HCl

is virtually free of such toxic effects as • jaundice • Parkinsonism • blood dyscrasia

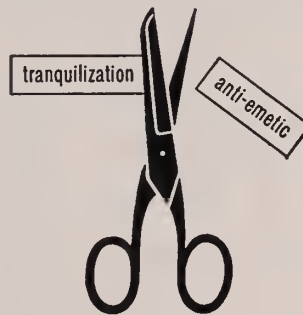
"Thioridazine [MELLARIL] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines.... This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."*

new advance in tranquilization: greater specificity of tranquilizing action results in fewer side effects



The presence of a thiomethyl radical (S-CH_3) is unique in Mellaril and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:

- 1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.



- 2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.
- 3 A notable absence of extrapyramidal stimulation.
- 4 Lack of impairment of patient's normal drive and energy.
- 5 Virtual freedom from such toxic effects as jaundice, photosensitivity, skin eruptions, blood forming disorders.

MELLARIL

PSYCHIC RELAXATION
DAMPENING OF
SYMPATHETIC AND
PARASYMPATHETIC
NERVOUS SYSTEM

Minimal suppression of vomiting
Little effect on blood pressure
and temperature regulation

Psychic relaxation
Dampening of
sympathetic and
parasympathetic
nervous system

Strong suppression of vomiting
Dampening of blood pressure
and temperature regulation

**other
phenothiazine-type
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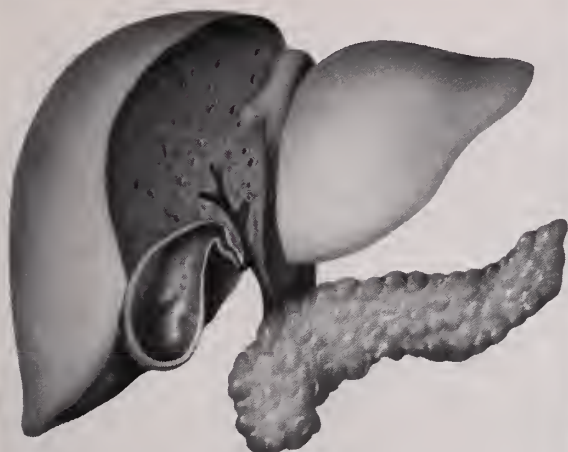
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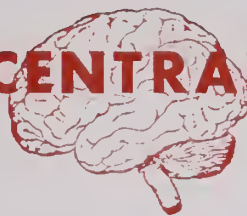
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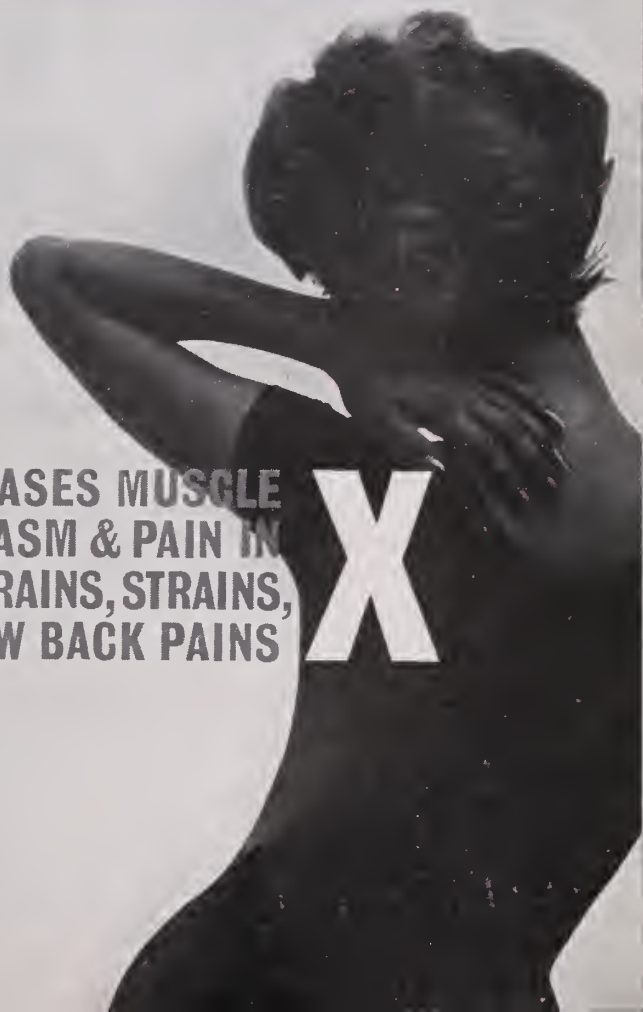
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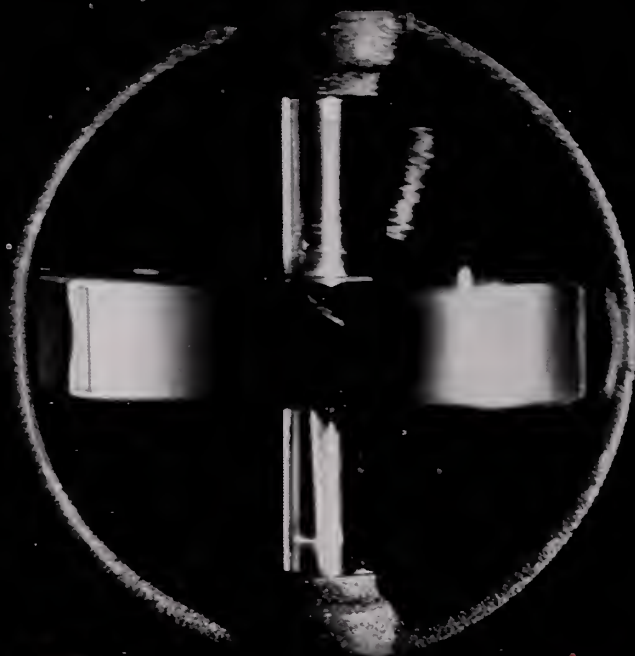
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References: 1. Feinberg, S.M., Feinberg, A.R., and Fisherman, E.W.: *J.A.M.A.* 167:58 (May 3) 1958. 2. Epstein, J.I. and Sherwood, H.: *Connecticut Med.* 22:822 (Dec.) 1958. 3. Friedlaender, S. and Friedlaender, A.S.: *Antibiotic Med. & Clin. Ther.* 5:315 (May) 1958. 4. Segal, M.S. and Duvenci, J.: *Bull. Tufts North East M. Center* 4:71 (April-June) 1958. 5. Segal, M.S.: Report to the A.M.A. Council on Drugs, *J.A.M.A.* 169:1063 (March 7) 1958. 6. Sherwood, H. and Cooke, R.A.: *J. Allergy* 28:97 (Mar.) 1958. 7. Duke, C.J. and Oviedo, R.: *Antibiotic Med. & Clin. Ther.* 5:710 (Dec.) 1958. 8. McGavack, T.H.: *Clin. Med.* (June) 1958. 9. Freyberg, R.H.; Berntsen, C.A., and Hellman, L.: *Arthritis and Rheumatism* 1:215 (June) 1958. 10. Hartung, E.F.: *J.A.M.A.* 167:973 (June 21) 1958. 11. Hartung, E.F.: *J. Florida Acad. Gen. Pract.* 8:18, 1958. 12. Zuckner, J.; Ramsey, R.H.; Caciolo, C., and Gantner, G.E.: *Ann. Rheum. Dis.* 17:398 (Dec.) 1958. 13. Appel, B.; Tye, M.J., and Leibsohn, E.: *Antibiotic Med. & Clin. Ther.* 5:716 (Dec.) 1958. 14. Kalz, F.: *Canad. M.A.J.* 79:400 (Sept.) 1958. 15. Mullins, J.F., and Wilson, C.J.: *Texas State J. Med.* 54:648 (Sept.) 1958. 16. Shelley, W.B.; Harun, J.S., and Pillsbury, D.M.: *J.A.M.A.* 167:959 (June 21) 1958. 17. DuBois, E.F.: *J.A.M.A.* 167:1590 (July 26) 1958. 18. McGavack, T.H.; Kao, K.T.; Leake, D.A.; Bauer, H.G., and Berger, H.E.: *Am. J. Med. Sc.* 236:720 (Dec.) 1958. 19. Council on Drugs: *J.A.M.A.* 169:257 (Jan. 17) 1959. 20. Rein, C.R.; Fleischmajer, R., and Rosenthal, A.R.: *J.A.M.A.* 165:1821 (Dec. 7) 1957.

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References: 1. Farah, L.: Internat. Rec. Med. 169:379 (June) 1956. 2. Smigel, J. O., et al.: J. Am. Geriatrics Soc. 7:61 (Jan.) 1959. 3. Feinberg, A. R., et al.: J. Allergy 29:358 (July) 1958. 4. Eisenberg, B. C.: J.A.M.A. 169:14 (Jan. 3) 1959. 5. Maryssael, L.: Bruxelles-méd. 38:141 (Jan. 26) 1958. 6. Pfleger, R.: Med. Klin. 53:1030 (June 5) 1958. 7. Over 200 laboratory and clinical papers from 14 countries.

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*Hirsch, H. A., and Finland, M.
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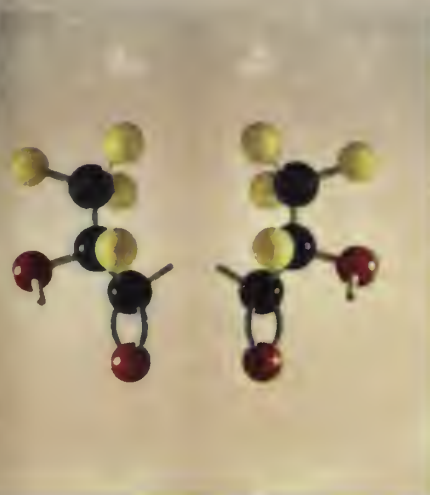


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DIRECTLY
PROPORTIONAL
TO ORAL DOSE*

*REDUCED HAZARD
OF SERIOUS
ALLERGENICITY
BY SAFER
ORAL ROUTE*

*MANY
STAPH STRAINS
MORE
SENSITIVE TO
SYNCILLIN*



ORIGIN OF A NEW SYNTHETIC PENICILLIN

In March, 1957, Dr. John C. Sheehan of the Massachusetts Institute of Technology announced the total synthesis of penicillin from common raw materials, thus solving a problem which had baffled research workers for more than 15 years. Although total synthesis was not commercially practicable, this work, sponsored by Bristol Laboratories, made possible the subsequent synthesis of new penicillins not occurring in nature. Later scientists at Beecham Laboratories in England discovered that a key intermediate (6-aminopenicillanic acid) could be produced by a fermentation process. With these achievements, large scale production of synthetic penicillins became feasible.

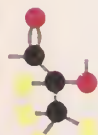
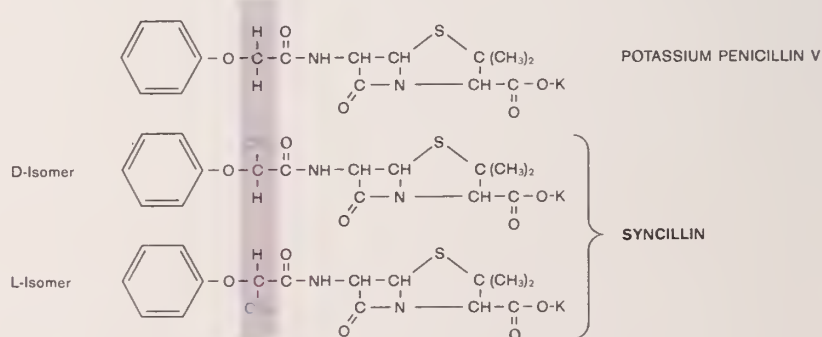
Organic chemists at Bristol then embarked upon an intensive program to develop better penicillins. Over five hundred were synthesized and underwent preliminary screening. Forty-six showed sufficient promise to warrant further investigation. Extensive microbiological, pharmacological, and clinical screening indicated that one compound, SYNCILLIN, had advantages of major importance over other penicillins.

SYNCILLIN is the N-acylation product of 6-aminopenicillanic acid and α -phenoxypropionic acid (the phenylether of lactic acid). It is freely soluble in water and remarkably resistant to decomposition by acid. The acid stability of SYNCILLIN is equivalent to that of penicillin V at pH 2 and pH 3 at 37° C.¹

SIGNIFICANCE OF MOLECULAR ASYMMETRY AND ISOMERIC COMPLEMENTARITY

SYNCILLIN has a molecular configuration similar to penicillin V, but contains an additional CH_3 group so positioned as to render the adjacent carbon atom asymmetric. (In the formulae below, the added CH_3 group is shown in blue and the asymmetric carbon atom in red.) As a result, SYNCILLIN occurs as a mixture of two isomers.

Each isomer has been synthesized in essentially pure form and found to possess distinctive chemical and biological properties. The L-isomer is 2 to 17 times more active than the D-isomer against many of the organisms tested. As produced, SYNCILLIN is a mixture of the L-isomer and the D-isomer. As will be shown later, the antibiotic effect of the clinically available mixture, SYNCILLIN, is greater than either isomer alone against many organisms. This phenomenon is referred to here as *isomeric complementarity*.



SYNCILLIN

major therapeutic advantages accompany molecular asymmetry

ISOMERIC COMPLEMENTARITY DEMONSTRATED *IN VITRO*

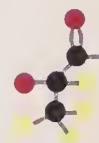
The *in vitro* minimum inhibitory concentration (MIC) of SYNCILLIN and of each of its two component isomers was determined for a variety of common pathogens and laboratory test organisms. As may be seen from Table 1, all three are highly effective against penicillin-susceptible staphylococci and against pneumococci, streptococci, gonococci, and corynebacteria; all are ineffective against *Salmonella*, *E. coli*, and other gram-negative coliform bacilli.

SYNCILLIN was more active against many of the test strains including some streptococci and staphylococci than either of its components. This demonstrates *in vitro* the phenomenon of isomeric complementarity.

TABLE 1
Minimum Concentrations of SYNCILLIN and Components
Required to Inhibit a Wide Range of Bacteria

	Minimum Inhibitory Concentration (MIC) in Micrograms per Milliliter		
	L-Isomer	D-Isomer	SYNCILLIN
<i>Bacillus anthracis</i>	0.06	0.25	0.03
<i>Bacillus cereus</i>	12.5	100	25
<i>Bacillus circulans</i> ATCC 9961	6.25	6.25	6.25
<i>Corynebacterium xerosis</i>	0.06	0.125	0.03
* <i>Diplococcus pneumoniae</i>	0.06	0.06	0.06
<i>Escherichia coli</i> ATCC 8739	>100	>100	>100
<i>Gaffkya tetragena</i>	0.015	0.03	0.015
<i>Micrococcus flavus</i>	0.015	0.125	0.015
<i>Salmonella paratyphi</i> A	25	50	25
<i>Salmonella typhosa</i>	>100	>100	>100
<i>Sarcina lutea</i> ATCC 10054	0.007	0.12	0.007
<i>Shigella sonnei</i>	100	100	100
<i>Staphylococcus aureus</i> 209P	0.06	0.125	0.03
<i>Staphylococcus aureus</i> var. Smith	0.03	0.125	0.03
<i>Streptococcus agalactiae</i> ATCC 1077	0.03	0.06	0.03
<i>Streptococcus dysgalactiae</i> ATCC 9926	0.03	0.06	0.03
<i>Streptococcus faecalis</i> PCI 1305	6.25	25	6.25
* <i>Streptococcus pyogenes</i> 203	0.06	0.06	0.06
* <i>Streptococcus pyogenes</i> Dignonnet	0.03	0.15	0.06
<i>Streptococcus pyogenes</i> 2320	0.06	0.06	0.03
<i>Streptococcus pyogenes</i> 23586	0.06	0.06	0.06
<i>Vibrio comma</i>	50	25	25

Serial dilution technique in heart infusion broth *10% serum added

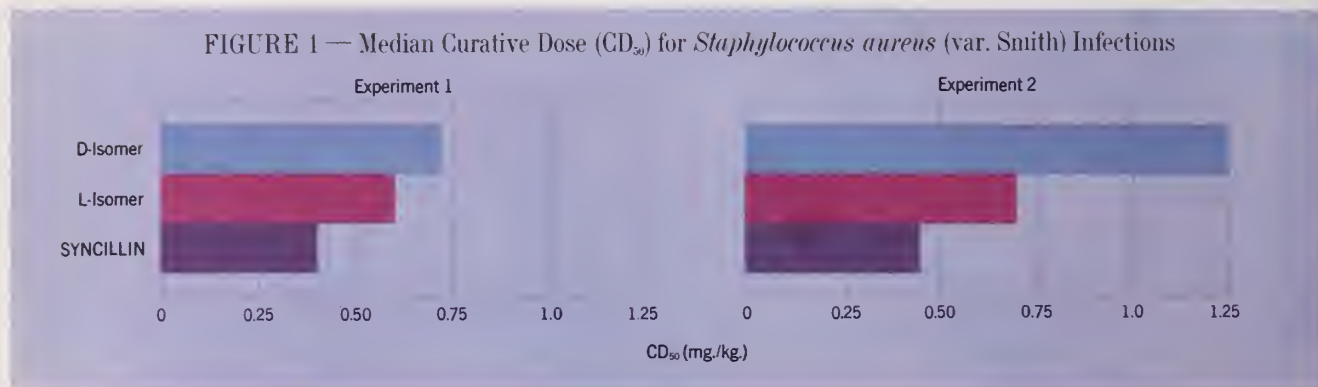


SYNCILLIN

major therapeutic advantages accompany molecular asymmetry

ISOMERIC COMPLEMENTARITY CONFIRMED *IN VIVO*

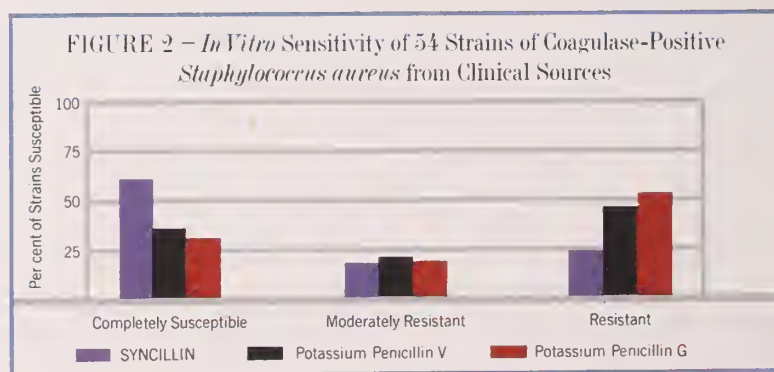
To determine the median curative dose (CD_{50}) mice were infected with 100 times the lethal dose of *Staphylococcus aureus*. Each penicillin being tested was administered intramuscularly at the same time, and the dose required to cure half the animals determined. The greater effect of the mixture of the two isomers (SYNCILLIN) is shown in two independent experiments. (See Figure 1.) Note that isomeric complementarity is thus confirmed *in vivo*.



MANY STRAINS OF STAPHYLOCOCCI MORE SENSITIVE TO SYNCILLIN

SYNCILLIN has been tested against a large number of strains of *Staphylococcus aureus* isolated from clinical sources. Many organisms resistant to potassium penicillin G and potassium penicillin V proved sensitive to SYNCILLIN.

Wright² performed sensitivity studies on 54 strains, the majority of which were resistant or moderately resistant to penicillin V and penicillin G. Thirty-two (60%) of the strains were sensitive to SYNCILLIN, approximately twice as many as with the other penicillins. (See Figure 2.) In two-thirds of the isolates, SYNCILLIN produced inhibition at concentrations lower than those required for either of the other antibiotics. One strain was more sensitive to penicillin G.



Adapted from Wright

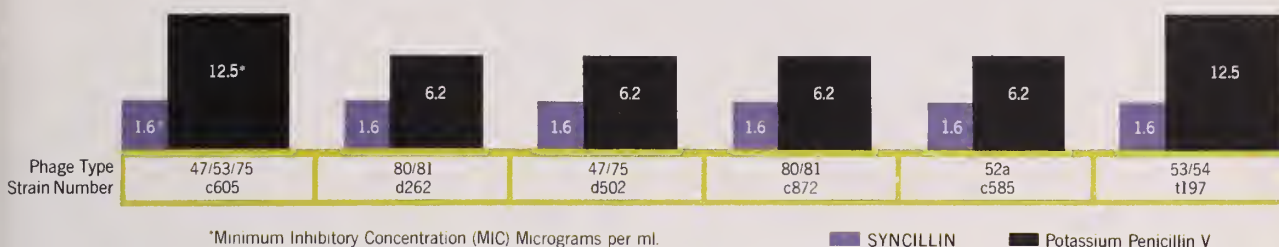


SYNCILLIN

major therapeutic advantages accompany molecular asymmetry

Of equal interest are the findings of White.³ Six penicillin-resistant strains of staphylococci were isolated from hospital infections. None was sensitive to potassium penicillin V. All were sensitive to SYNCILLIN. (See Figure 3.)

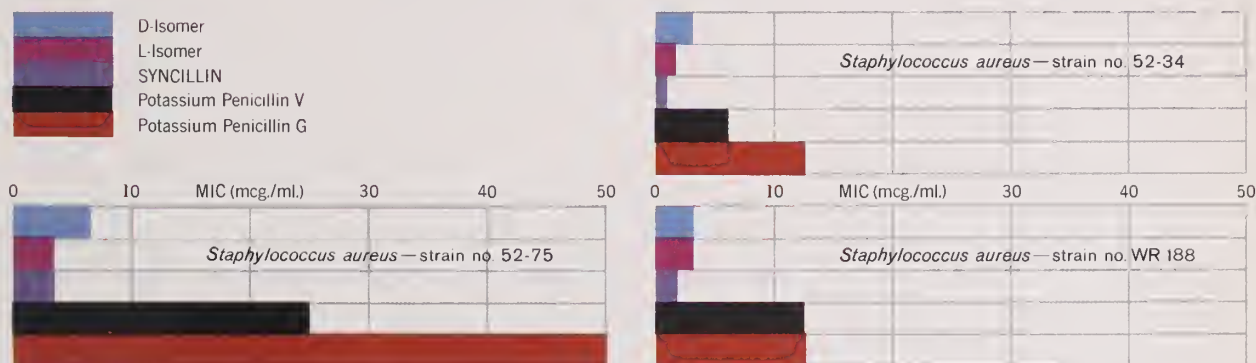
FIGURE 3
Minimum Concentrations of SYNCILLIN Required to Inhibit
Hospital Strains of *Staphylococcus aureus* Resistant to Potassium Penicillin V



The efficacy of SYNCILLIN against the type 80/81 *Staphylococcus* (dangerous and widespread in hospitals) is worthy of special attention.

The complementary action of the component isomers is also seen with strains of staphylococci resistant to penicillins. Note that SYNCILLIN is more effective than either isomer against strains 52-34 and WR 188. (See Figure 4.) Against all three strains, SYNCILLIN is effective at concentrations below serum levels, while penicillins V and G are ineffective.

FIGURE 4
Minimum Inhibitory Concentrations (MIC) for Coagulase-Positive
Penicillin-Resistant Strains of *Staphylococcus aureus*



Isomeric complementarity has thus been demonstrated for:

- certain penicillin-susceptible streptococci, staphylococci and corynebacteria in vitro (Table 1)
- penicillin-susceptible staphylococci in vivo (Figure 1)
- penicillin-resistant staphylococci in vitro (Figure 4)



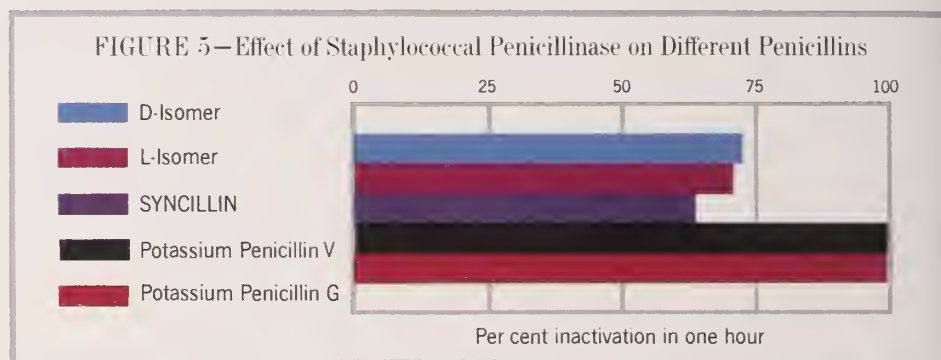
SYNCILLIN

major therapeutic advantages accompany molecular asymmetry

ISOMERIC COMPLEMENTARITY SHOWN BY REDUCED RATE OF INACTIVATION BY PENICILLINASE

Bacterial resistance to penicillin has been attributed to the action of penicillin-inactivating enzymes produced by the invading organisms.⁴ As shown in Figure 5, SYNCILLIN is less affected by staphylococcal penicillinase than either of its component isomers — a further demonstration of isomeric complementarity. Further, SYNCILLIN is shown to be less inactivated by this enzyme than penicillin V and penicillin G.

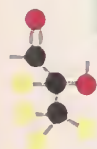
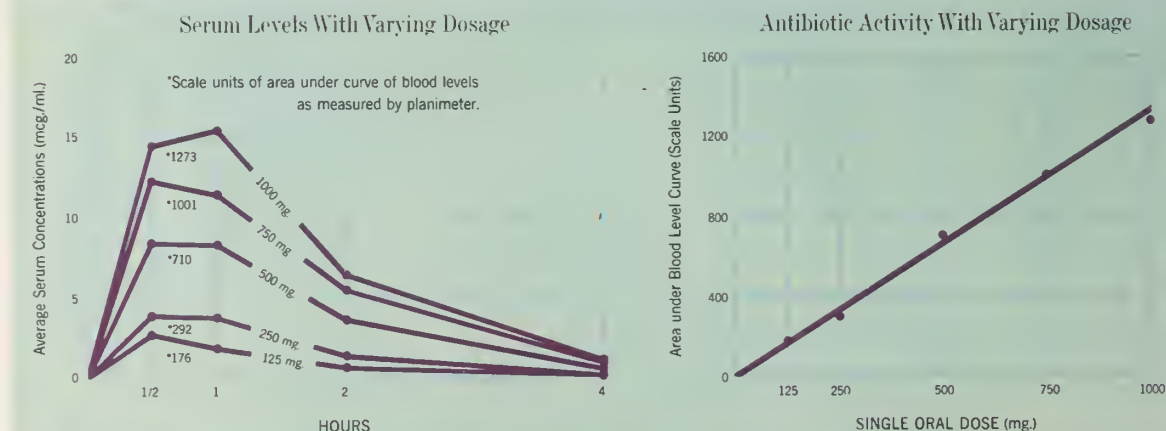
Resistance to SYNCILLIN develops in a slow, step-wise manner characteristic of other penicillins, in contrast to the usually rapid development of resistance to streptomycin.



ANTIBIOTIC ACTIVITY DIRECTLY PROPORTIONAL TO ORAL DOSAGE

Cronk⁵ studied blood levels after administering varying amounts of SYNCILLIN. (Figure 6.) Total antibiotic activity (obtained by measuring areas under curves with a planimeter) increases rapidly as the dose is doubled. These data show that increased dosage markedly increases serum concentration and thus may enhance the drug's effectiveness.

FIGURE 6



SYNCILLIN

major therapeutic advantages accompany molecular asymmetry

BLOOD LEVELS TWICE AS HIGH AS WITH POTASSIUM PENICILLIN V AFTER ORAL ADMINISTRATION

Wright⁶ performed comparative crossover blood level studies on volunteer subjects receiving equivalent amounts of potassium penicillin V and SYNCILLIN. The peak concentrations attained during the first hour after administration were twice as high with SYNCILLIN.

The total antibiotic activity as measured by the area under the curves (see Figure 7) indicates an almost 2 to 1 superiority of SYNCILLIN (1606) over potassium penicillin V (860).

The higher blood levels may be of value with organisms of only moderate penicillin-sensitivity where doubling the blood concentration may be essential for effective bactericidal action. In addition these higher levels may be necessary where there is infection in areas with a poor blood supply.⁷ Under these circumstances a higher blood concentration may provide the increased diffusion pressure required to deliver adequate amounts to the tissue.

BLOOD LEVELS MUCH HIGHER THAN WITH INTRAMUSCULAR PENICILLIN G

In addition, blood levels attained with oral SYNCILLIN⁶ are much higher than those with intramuscular penicillin G.^{8a, b} (See Figure 8.) Note that the level at one hour for SYNCILLIN (3.8 mcg./ml.) is more than twice as high as with procaine penicillin G, even when reinforced with potassium penicillin G (1.6 mcg./ml.). Since penicillins are *bactericidal*, these intermittent high serum levels can be clinically significant. Thus, SYNCILLIN offers the promise of superior efficacy via the safer oral route.

FIGURE 7
20 Subject Crossover
250 mg. Single Dose

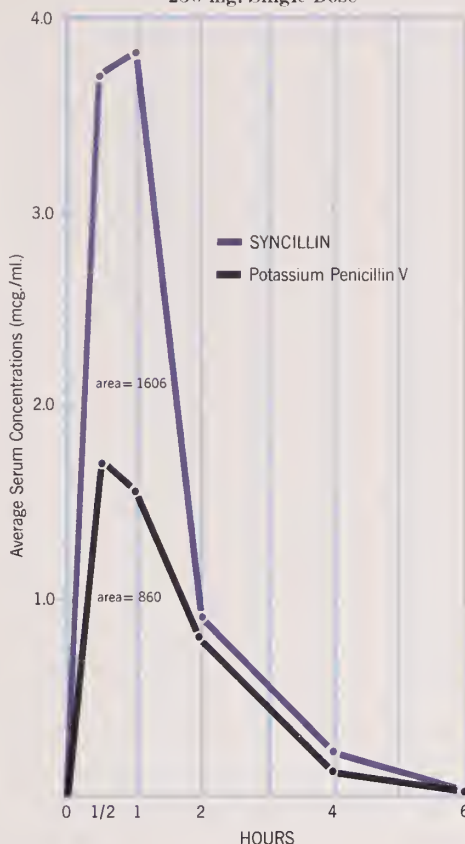
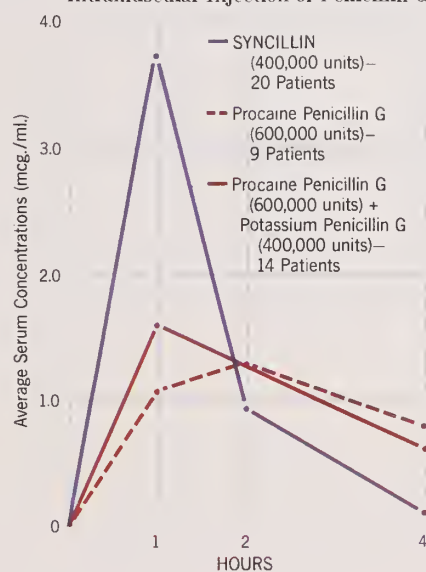


FIGURE 8—Serum Levels after Oral Administration of SYNCILLIN (250 mg.) and after Intramuscular Injection of Penicillin G



SYNCILLIN

major therapeutic advantages accompany molecular asymmetry



REDUCED HAZARD OF SERIOUS ALLERGENICITY BY SAFER ORAL ROUTE

SYNCILLIN has been administered in multiple doses to 437 patients and volunteers. One patient developed itching during therapy, possibly an allergic side effect. Another had a purpuric rash, but no relationship to SYNCILLIN was established. No reactions were observed in 9 patients with a known history of sensitivity to penicillin.

While the above data suggests the possibility of reduced allergenic hazard, no definite conclusions may be drawn at this time. *The usual precautions for oral penicillin therapy should be observed.* Patients with histories of asthma, hay fever, urticaria, or previous penicillin-sensitivity should especially be watched carefully. Since SYNCILLIN is administered orally, it may be expected to be safer than parenteral penicillin.

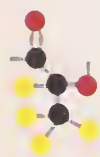
As Flippin⁹ recently stated, "... it is well established that serious allergy to the drug [penicillin] is most likely to occur following parenteral administration, especially after repeated intramuscular injections; the oral route is least likely to initiate severe hypersensitivity reactions. This can be explained partly by the fact that when reactions develop following oral medication, they are usually slow enough to treat symptomatically; thus the progression of the reaction can usually be interrupted. . . . In view of the relatively high incidence of severe allergy to injectable penicillin, it would seem advisable to employ oral penicillin routinely, except in the control of infections involving the blood stream, endocardium, meninges, etc., in which cases the parenteral route remains the preferred treatment."

SYNCILLIN, like other penicillins, is essentially free of other toxicity. No hematopoietic, hepatic, or renal toxicity was observed in 210 volunteers receiving 1 gm. daily for 2 to 3 weeks.¹⁰

CLINICAL EFFICACY DEMONSTRATED IN PENICILLIN-SENSITIVE INFECTIONS

Clinical trials conducted by Blau and Kanof,¹¹ White,¹² Prigot,¹³ Robinson,¹⁴ Dube,¹⁵ Ferguson,¹⁶ Rutenburg,¹⁷ Richardson,¹⁸ Bunn,¹⁹ Cronk,⁵ Kligman,¹⁰ and Yow²⁰ demonstrated the efficacy of SYNCILLIN in a variety of streptococcal, staphylococcal, pneumococcal, and gonococcal infections. Conditions treated included respiratory, skin, soft tissue, wound, and chronic urinary tract infections; acute gonorrhea; cellulitis; septicemia; otitis media; gingivitis; and Vincent's angina. In a few patients SYNCILLIN was used for rheumatic fever or gonorrheal prophyllaxis.

One hundred seventy-two of one hundred ninety-six patients responded favorably to SYNCILLIN. The failures included 1 patient with pustular dermatoses, 10 elderly patients with chronic urinary tract infections, 1 patient with gonorrhea, 1 patient with a gram-negative infection, and 10 patients with staphylococcal infections. Lack of response of staphylococcal infections was attributed to the presence of resistant organisms or local suppurative foci requiring drainage.



SYNCILLIN

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Relatively few side effects were encountered. One patient experienced moderate itching of the skin which was controlled by an antihistamine. Another reported pruritus ani which did not interfere with therapy. Diarrhea occurred in 4 instances. There was one purpuric rash, but no relationship to SYNCILLIN could be established.

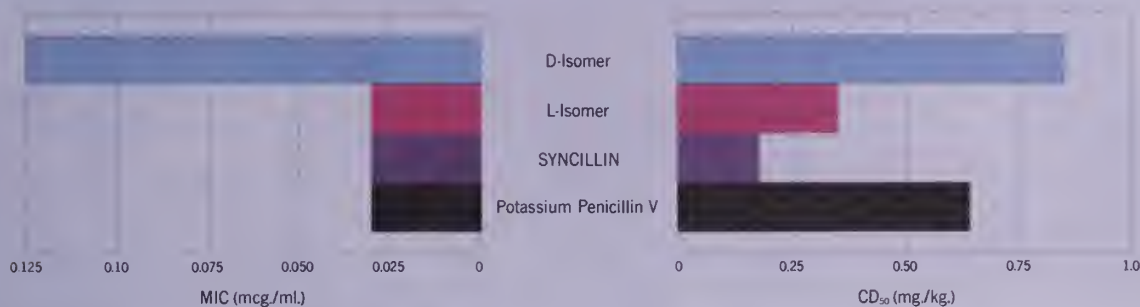
Clinical response usually begins within 24 hours in infections susceptible to SYNCILLIN. Recovery occurs in 4 to 7 days depending upon the severity of the infection. Gonorrheal infections respond very promptly to SYNCILLIN; 500 mg. b.i.d. for two days usually produce bacteriologic cures.

IMPROVED ANTIBIOTIC EFFECT FROM COMPLEMENTARY ACTION OF ISOMERS

SYNCILLIN is a mixture of isomers. The L-isomer is 2 to 17 times more active than the D-isomer against many of the organisms tested. Furthermore, the D- and L-isomers have other distinguishing chemical, pharmacological, and microbiological properties. Their *in vivo* and *in vitro* activities differ for many important pathogens. *Against many of the organisms tested, the combination of isomers (SYNCILLIN) is much more active than the stronger isomer alone.* This phenomenon of isomeric complementarity is not always demonstrable, for in a few instances SYNCILLIN is slightly less active.

Isomeric complementarity has previously been demonstrated *in vitro* (Figure 4) and *in vivo* (Figure 1). Figure 9 reveals a third form of superiority related to isomeric complementarity. Equal concentrations of SYNCILLIN and penicillin V were required to inhibit this growth of staphylococci *in vitro*. But, *in vivo*, a much smaller amount of SYNCILLIN (*one-third that of penicillin V*) was effective in an experimental infection with the same strain. These observations on complementary action indicated the advantage of producing the mixture of isomers as the medication to be made available for clinical therapy.

FIGURE 9 — Comparison of CD_{50} and MIC Values Against *Staphylococcus aureus* (var. Smith)



Isomeric complementarity has thus been demonstrated for:

- certain penicillin-susceptible streptococci, staphylococci and corynebacteria *in vitro* (Table 1)
- penicillin-susceptible staphylococci *in vivo* (Figures 1 and 9)
- penicillin-resistant staphylococci *in vitro* (Figure 4)
- staphylococcal penicillinase antibiotic inactivation (Figure 5)

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Indications:

SYNCILLIN is recommended in the treatment of infections caused by pneumococci, streptococci, gonococci, corynebacteria, and penicillin-sensitive staphylococci. In addition, SYNCILLIN is effective against certain strains of staphylococci resistant to other penicillins.

SYNCILLIN, like other oral penicillins, is not recommended at the present time in deep-seated or chronic infections, subacute bacterial endocarditis, meningitis, or syphilis.

Dosage:

125 mg. or 250 mg. three times daily, depending on the severity of infection. Larger doses (e.g., 500 mg. t.i.d.) may be used for more severe infections. SYNCILLIN may be administered without regard to meals.

Beta hemolytic streptococcal infections should be treated with SYNCILLIN for at least ten days.

Precautions:

While present data suggest the possibility of reduced allergenic hazard, no definite conclusions may be drawn at this time. *Therefore the usual precautions with oral penicillin therapy must be observed.* Patients with histories of asthma, hay fever, urticaria, or previous reactions to penicillin should be watched with special care.

Diarrhea has been reported occasionally following heavy dosage. If this occurs, the interval between dosages should be lengthened.

If superinfection occurs during therapy, appropriate measures should be taken.

Since some strains of staphylococci are resistant to SYNCILLIN as well as to other penicillins, cultures and sensitivity tests should be performed where indicated by clinical judgment. As is true with all antibiotics, clinical response does not always correlate with laboratory bacterial sensitivity reports.

Supply:

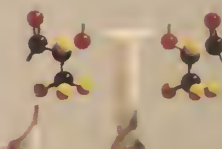
125 and 250 mg. tablets, bottles of 25 and 100. 125 mg. powder for oral solution, 60 ml. vials.

References: 1. Lein, J.: Microbiology report to Bristol Laboratories Inc. 2. Wright, W. W.: Microbiology report to Bristol Laboratories Inc. 3. White, A. C.: Microbiology report to Bristol Laboratories Inc. 4. Dubos, R. J.: Bacterial and Mycotic Infections of Man, 3rd edition, Philadelphia, J. B. Lippincott Co., p. 690. 5. Cronk, G. A.: Clinical report to Bristol Laboratories Inc. 6. Wright, W. W.: Clinical report to Bristol Laboratories Inc. 7. Kass, E. H.: Am. J. Med. 18:764 (May) 1955. 8a. White, A. C.; Couch, R. A.; Foster, F.; Calloway, J.; Hunter, W., and Knight, V.: in Welch, H. and Marti-Ibañez, F.: Antibiotics Annual — 1955-1956, Medical Encyclopedia, Inc., New York, 1956, p. 490. b. Data on file — at Bristol Laboratories. 9. Flippin, H. F.: Pennsylvania M. J. 62:864 (June) 1959. 10. Kligman, A.: Clinical report to Bristol Laboratories Inc. 11. Blau, S., and Kanof, N.: Clinical report to Bristol Laboratories Inc. 12. White, A. C.: Clinical report to Bristol Laboratories Inc. 13. Prigot, A.: Clinical report to Bristol Laboratories Inc. 14. Robinson, C.: Clinical report to Bristol Laboratories Inc. 15. Dube, A. H.: Clinical report to Bristol Laboratories Inc. 16. Ferguson, B.: Clinical report to Bristol Laboratories Inc. 17. Rutenburg, A. M.: Clinical report to Bristol Laboratories Inc. 18. Richardson, J. H.: Clinical report to Bristol Laboratories Inc. 19. Bunn, P. A.: Clinical report to Bristol Laboratories Inc. 20. Yow, E. M.: Clinical report to Bristol Laboratories Inc.



major therapeutic advantages accompany molecular asymmetry

SYNCILLIN



CHOICE THERAPY FOR THE "OLDER" PATIENT WITH MILD TO MODERATE HYPERTENSION



Rx Veratrite®

More than 13,000,000 prescriptions attest that Veratrite continues to be the antihypertensive of choice for the older hypertensive patient. Veratrite can be prescribed safely and routinely for those who usually cannot tolerate more potent drugs.

Veratrite now contains cryptenamine which acts centrally to produce a gradual fall in blood pressure, yet improves circulation to vital organs, relieves dizziness and headache, and imparts a distinct sense of well-being. Furthermore, Veratrite achieves its effects with unusual safety and without annoying side effects.

Each Veratrite tabule contains: Cryptenamine (tanates), 40 C.S.R.* Units; Sodium nitrite, 1 gr.; Phenobarbital, ¼ gr. Dosage: 1-2 tabules t.i.d., preferably 2 hours after meals.

*Carotid Sinus Reflex

Neisler

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NOW... SAFER, EFFECTIVE TRANQUILIZER THERAPY

tranquilization

anti-emetic

greater specificity
of tranquilizing action
—divorced from such
"diffuse" effects as
anti-emetic action
—explains why

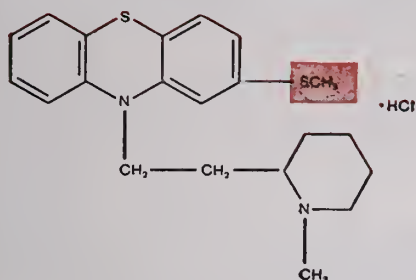
 **Mellaril[®]**

THIORIDAZINE HCl

is virtually free of such toxic effects as • jaundice • Parkinsonism • blood dyscrasia

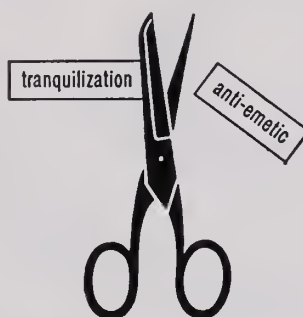
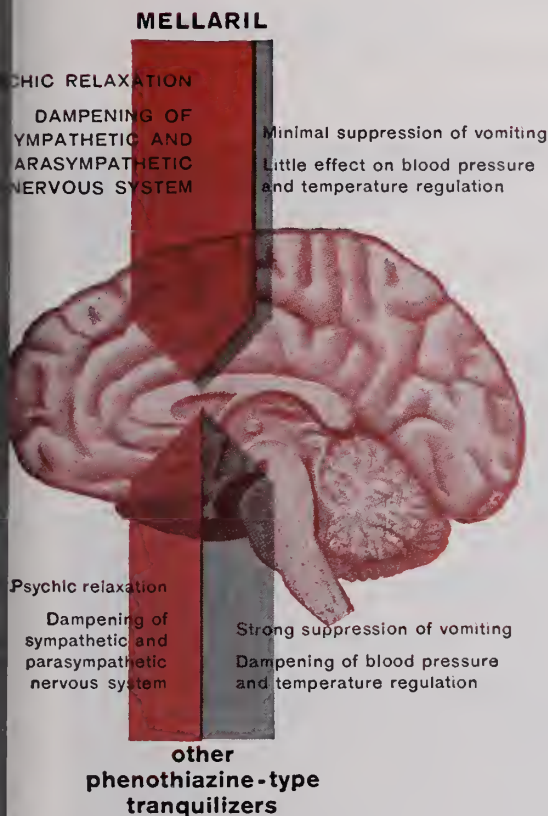
"Thioridazine [MELLARIL] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines. ... This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."*

new advance in tranquilization: greater specificity of tranquilizing action results in fewer side effects



The presence of a thiomethyl radical (S-CH₃) is unique in Mellaril and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:

- 1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.



- 2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.
- 3 A notable absence of extrapyramidal stimulation.
- 4 Lack of impairment of patient's normal drive and energy.
- 5 Virtual freedom from such toxic effects as jaundice, photosensitivity, skin eruptions, blood forming disorders.

INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANGE
ADULTS: Mental and Emotional Disturbances: MILD —where anxiety, apprehension and tension are present MODERATE —where agitation exists in psychoneuroses, alcoholism, intractable pain, senility, etc. SEVERE —in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.: <div style="margin-left: 100px;">Ambulatory</div> <div style="margin-left: 100px;">Hospitalized</div>	10 mg. t.i.d. 25 mg. t.i.d. 100 mg. t.i.d. 100 mg. t.i.d.	20-60 mg. 50-200 mg. 200-400 mg. 200-800 mg.
CHILDREN: BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.

MELLARIL Tablets, 10 mg., 25 mg., 100 mg.

field, A. M.: Scientific Exhibit, American Academy
General Practice, San Francisco, April 6-9, 1959



In urinary tract disorders

Suromate[®]

(PATCH)



hits the focus of infection

quickly relieves pain

Low triple-sulfa dosage minimizes toxicity,
yet provides prompt and adequate
therapeutic blood levels to control infection. Suromate quickly
relieves pain, irritation, burning and urgency . . . offers
the built-in safety factor of urine alkalinizing potassium citrate.

● ***Prevents pooling, crystalluria, drug resistance and superinfection.***

DOSAGE: Adults—Initial dose, three tablets,
then two tablets four times a day. Take
with water.

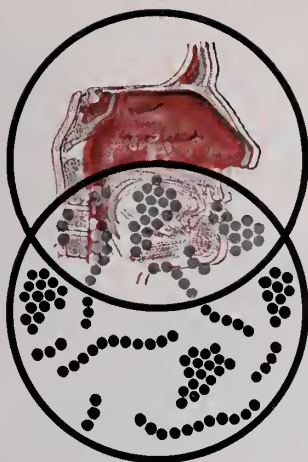
SUPPLIED: Bottles of 100 and 500 tablets.

Each Suromate tablet contains:

Sulfadiazine	100 mg.
Sulfamerazine	100 mg.
Sulfacetamide	100 mg.
Extract of	
hyoscyamus	5.75 mg.
(contains 0.155% of alkaloids)	
Potassium citrate	200 mg.



Smith, Miller & Patch, INC.
FINE PHARMACEUTICALS • 902 BROADWAY, N. Y. 10



when upper
respiratory congestion

is complicated
by bacterial invaders

TRISULFAMINIC provides logical therapy

- for the patient ill with congestion and infection of the upper respiratory tract, as in purulent rhinitis, sinusitis, tonsillitis and otitis media, when caused by sulfa-susceptible bacteria;
- because secondary invasion by such bacteria so frequently follows the common cold.¹

the reasons for combining Triaminic with triple sulfas

Triaminic and triple sulfas are not only pharmacologically *compatible*, they are a therapeutically *logical* combination for upper respiratory infections: Triaminic for effective decongestant relief from rhinitis, rhinorrhea and sinusitis;² triple sulfas for well-established antibacterial action.

The advantages of Trisulfaminic in upper respiratory infections include: proved effectiveness; safety; economy; ease of administration; less likelihood of sensitivity reactions;³ compatibility with antibiotics and other antibacterial therapy. Provided also as Suspension for additional convenience.

Trisulfaminic®

TRIAMINIC WITH TRIPLE SULFAS

Available as TABLETS and SUSPENSION

Each easy-to-swallow Trisulfaminic Tablet or 5 ml. teaspoonful of Suspension provides:

Triaminic®25 mg.
(phenylpropanolamine HCl 12.5 mg.
pheniramine maleate 6.25 mg.
pyrilamine maleate 6.25 mg.)
Trisulfapyrimidines, U.S.P.0.5 Gm.

Dosage:

Adults—2 to 4 tablets or tsp. initially, followed by 2 tablets or tsp. every 4 to 6 hours until the patient has been afebrile 3 days. *Children 8 to 12*—2 tablets or tsp. initially, followed by 1 tablet or tsp. every 6 hours. *Children under 8*—dosage according to weight.

The palatability, convenience and effectiveness of the Suspension make it especially suitable for children and for those older patients who prefer liquid medication.

References: 1. Cecil, R. L., et al.: J.A.M.A. 124:8 (Jan. 1) 1944. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Beckman, H.: Drugs, Their Nature, Action & Use, Saunders, Philadelphia, 1958, p. 527.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska

ANNOUNCING
SCHERING'S
NEW
MYOGESIC^x



RELATM EASES STRAINS
SPRAINS & LOW
BACK PAINS...!

CARISOPRODOL

X



RELA—a new myogestic for better relaxant *and* analgesic therapy—more adept management of spasm and pain in strains, sprains and low back pains.

RELA—though a single drug—is a true myogestic and works rapidly to achieve three desired effects...

Rela relaxes acute muscle spasm

Relief of muscle spasm (96% excellent to good effectiveness)¹

Rela provides a unique quality of persistent pain relief through its relaxant and analgesic actions

"Relief from pain was usually rapid and sometimes dramatic"¹

Rela, through relaxation and analgesia, assures daytime ease and nighttime rest

"... A number of patients reported freedom from insomnia which they attributed to freedom from pain."¹

indications: RELA is most beneficial in those conditions of the musculoskeletal system manifesting pain, stiffness and spasm.

safety: Studies of more than 1400 patients indicate that the toxicity of RELA is exceptionally low. In human subjects, respiratory, blood pressure or blood chemistry changes and/or renal, hepatic or endocrine dysfunction have not been reported.

dosage: The usual adult dosage of RELA is one tablet 3 times daily and at bedtime. RELA has a rapid onset of action, with relief usually apparent within 30 minutes, and persisting for at least 6 hours.

supply: RELA is available as 350 mg., pink, coated tablets in bottles of 30.

1. Kuge, T.: To be published.

X MYOGESTIC
muscle-analgesic
relaxant

Schering

make them measure up



Incremin[®] with iron Syrup

Lysine-Vitamins Lederle

help restore the normal blood picture—iron as ferric pyrophosphate to restore or maintain normal hemoglobin.

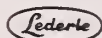
boost appetite and energy—vitamins . . . B₁, B₆ and B₁₂.

upgrade low-grade protein—cereals and other low protein favorites of children, upgraded by L-Lysine, work with meat and other top protein to build stronger bodies.

tastes good! Each daily cherry-flavored teaspoonful dose (5 cc.) contains:

L-Lysine HCl	300 mg.
Vitamin B ₁₂ Crystalline.....	25 mcgm.
Thiamine HCl (B ₁).....	10 mg.
Pyridoxine HCl (B ₆).....	5 mg.
Ferric Pyrophosphate (Soluble)	250 mg.
Iron (as Ferric Pyrophosphate)	30 mg.
Sorbitol	3.5 Gm.
Alcohol	0.75%

Bottles of 4 and 16 fl. oz.



LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

- Exhibits unusual analgesic properties, different from those of any other drug
- Specific and superior in relief of SOMatic pain
- Modifies central perception of pain without abolishing natural defense reflexes
- Relaxes abnormal tension of skeletal muscle

SOMATM

N-isopropyl-2-methyl-2-propyl-1, 3-propanediol dicarbamate

- More specific than salicylates
- Less drastic than steroids
- More effective than muscle relaxants

SOMA has an unique analgesic action. It apparently modifies central pain perception without abolishing peripheral pain reflexes. **SOMA** is particularly effective in relieving joint pain. Patients say that they feel better and sleep better with **SOMA** than with previously used analgesic, sedative or relaxant drugs.

SOMA also relaxes muscle hypertonia, with its stresses on related joints, ligaments and skeletal structures.

ACTS FAST. Pain-relieving and relaxant effects start in 30 minutes and last 6 hours.

NOTABLY SAFE. Toxicity of **SOMA** is extremely low. No effects on liver, endocrine system, blood pressure, blood picture or urine have been reported. Some patients may become sleepy, particularly on high dosage.

EASY TO USE. Usual adult dose is one 350 mg. tablet 3 times daily and at bedtime.

SUPPLIED: Bottles of 50 white coated 350 mg. tablets.

Literature and samples on request.



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New from Lederle

a logical combination in appetite control

BAMADEX[®]

meprobamate with dextro-amphetamine sulfate LEDERLE

▼
meprobamate eases
tensions of dieting

▼
d-amphetamine
depresses appetite
and elevates mood

▼
...without
overstimulation

...without
insomnia

...without
barbiturate hangover

Each coated tablet (pink) contains:
d-amphetamine sulfate 5 mg.
meprobamate 400 mg.

Dosage: One tablet taken one-half
to one hour before each meal.



LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



in
peptic ulcer

Results with "... antacid therapy with DAA are essentially the same as ... with potent anticholinergic drugs."

Alglyn[®]

Dihydroxy aluminum aminoacetate, N.N.R.

In recent years, a number of new synthetic anticholinergic drugs with numerous and varying side effects have been investigated for treatment of peptic ulcer. However, a double-blind study conducted recently by Cayer et al suggests that the use of such anticholinergic drugs is seldom necessary. The authors concluded that "The percentage of 'good to excellent' results obtained in

patients on continuous long-term antacid therapy with DAA (74%) is essentially the same as that previously noted in ulcer patients treated under similar conditions with potent anticholinergic drugs alone."

The authors' choice of dihydroxy aluminum aminoacetate (DAA) was based on the fact that "the tablet form of DAA (is) more active than a variety of straight aluminum hydroxide magmas." They further commented that "Because of the convenience of tablet medication as compared with the liquid gel—a convenience which in the use of other tablets is gained at the expense of therapeutic effectiveness—dihydroxy aluminum aminoacetate was used exclusively."

ALGLYN (dihydroxy aluminum aminoacetate) Tablets are supplied in bottles of 100 tablets (0.5 Gm. per tablet).

**for control of nasal allergies
and seasonal hay fever**

Anamine

BRAND OF TIMED DISINTEGRATING ANTIHISTAMINE-DECONGESTANT TABLETS

Each tablet contains:

6.0 mg. Chlorpheniramine Maleate

37.5 mg. Pyrilamine Maleate

15.0 mg. Phenylephrine
Hydrochloride

ONE TABLET

***swiftly dries up nasal secretions;
yields maximum response 10 to 12 hours***

One third of the dosage disintegrates immediately to control irritating nasal secretions. The remaining dosage releases gradually to provide a therapeutic effect up to 10 to 12 hours. Only minimum side effects and low pressor.

Two widely proven antihistamines. And, a potent decongestant. Now combined in Anamine Timed Disintegrating Tablets.

Prescribe

Anamine

Available in bottles
50 and 250 tablets;
also pint liquid.

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brightens life for the aged

NIAMID gives the depressed elderly person a new sense of well-being. The family will notice a sunnier outlook, an alert interest in group activities, a renewed awareness of personal appearance, and a return of appetite. Your patient will be more cooperative and less demanding.

You can expect to see the same excellent response to NIAMID in a wide variety of depressive syndromes—acute or chronic, mild or severe, whether associated with long-standing or incurable illness, or masquerading as organic disease.

NIAMID side effects are infrequent and mild, and often lessened or eliminated by a reduction in dosage. NIAMID has not been reported to cause jaundice, and significant hypotensive effects have rarely been noted.

DOSAGE: Start with 75 mg. daily in single or divided doses, and adjust according to patient response. NIAMID acts slowly, without rapid jarring of physical or mental processes. Some patients respond to NIAMID within a few days, but for full therapeutic benefit, most require at least two weeks. NIAMID is available as 25 mg. (pink) and 100 mg. (orange) scored tablets.

Already clinically proved in several thousand patients—

Complete references and a Professional Information Booklet giving detailed information on NIAMID are available on request from the Medical Department, Pfizer Laboratories, Division, Chas. Pfizer & Co., Inc., Brooklyn 6, N. Y.

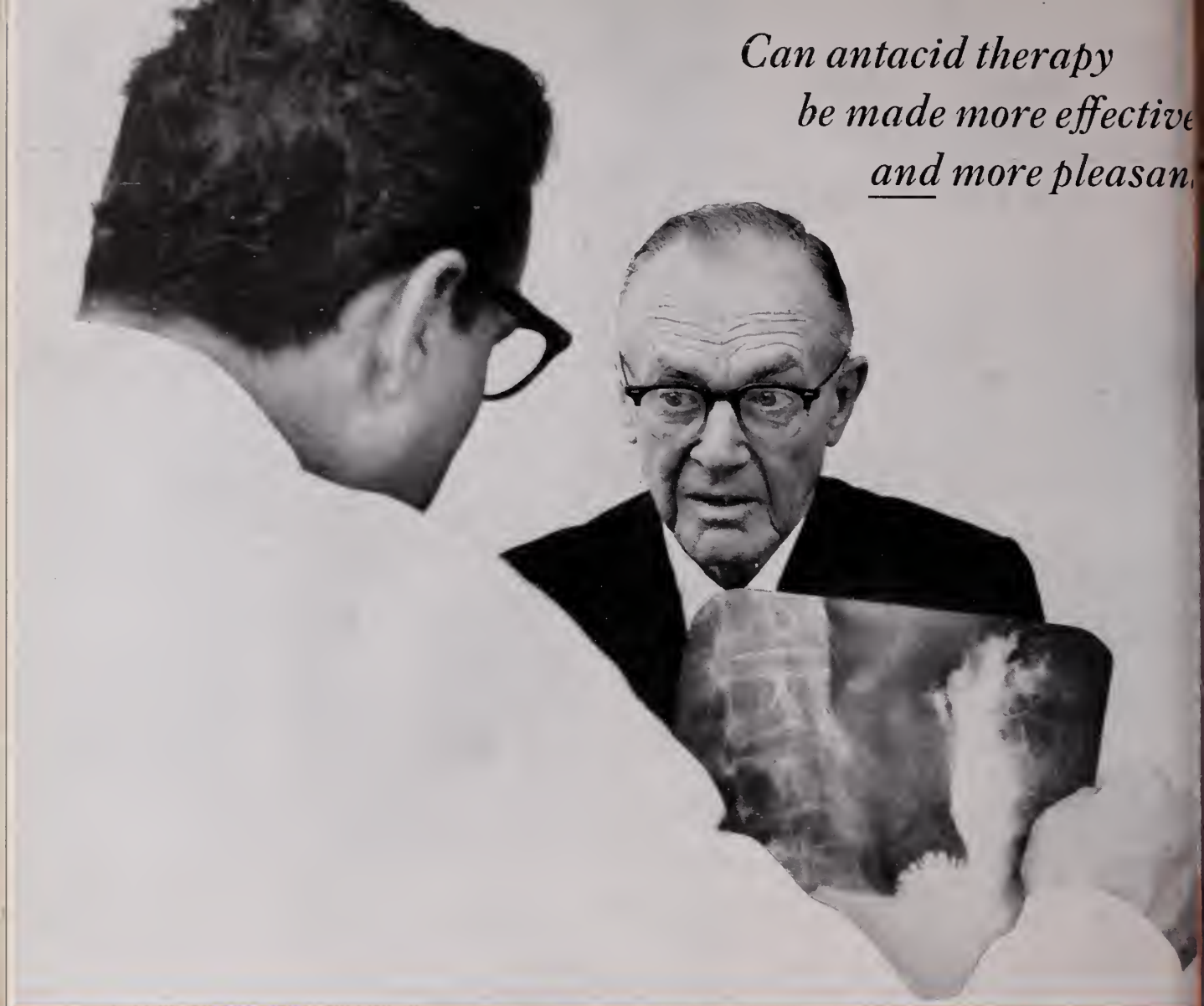
NIAMID
*the mood brightener
in geriatrics*

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 Science for the world's well-being™



*Can antacid therapy
be made more effective
and more pleasant*



THE MOST SIGNIFICANT IMPROVEMENT IN
ANTACID THERAPY SINCE THE INTRODUCTION
OF ALUMINUM HYDROXIDE IN 1929

NEW

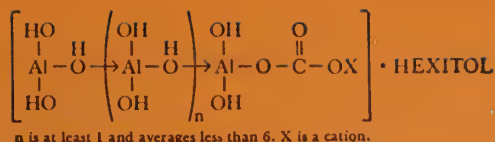
Creamalin[®]

ANTACID TABLETS

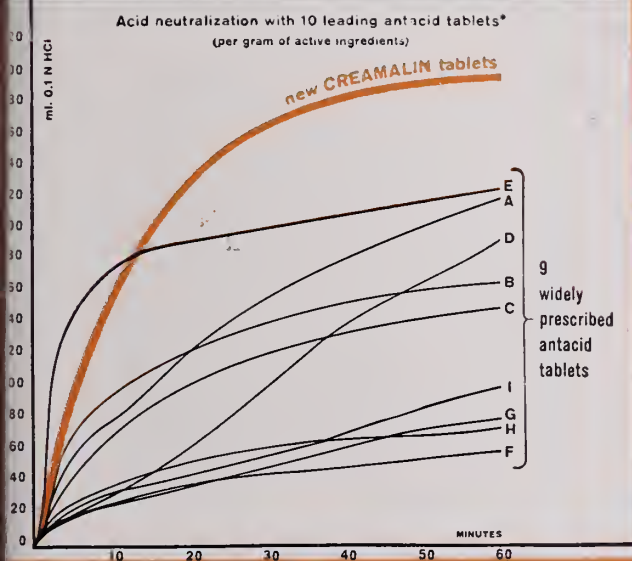
Each Creamalin Antacid Tablet contains 320 mg. specially processed, highly reactive, short polymer dried aluminum hydroxide gel, (stabilized with hexitol), with 75 mg. magnesium hydroxide.

- 1. Neutralizes acid faster (quicker relief)*
- 2. Neutralizes more acid (greater relief)*
- 3. Neutralizes acid longer (more lasting relief)*
- 4. No constipation • No acid rebound*
- 5. More pleasant to take*

a new high in effectiveness
and palatability

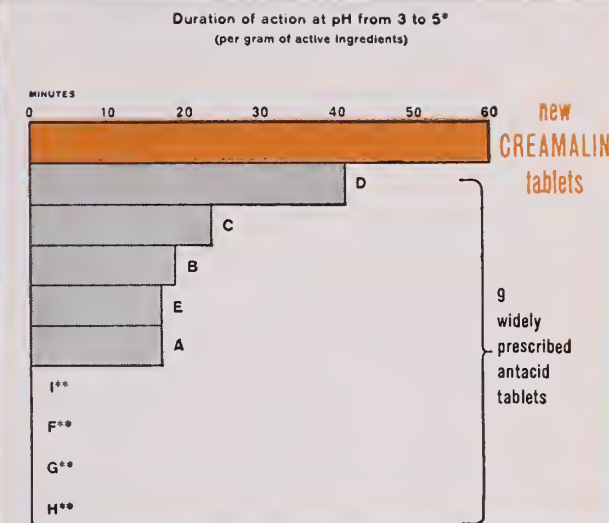


CREAMALIN NEUTRALIZES MORE ACID FASTER Quicker Relief • Greater Relief



Tablets were powdered and suspended in distilled water in a constant temperature container (37°C) equipped with mechanical stirrer and pH electrodes. Hydrochloric acid was added as needed to maintain pH at 3.5. Volume of acid required was recorded at frequent intervals for one hour.

CREAMALIN NEUTRALIZES MORE ACID LONGER More Lasting Relief



*Hinkel, E. T., Jr., Fisher, M. P. and Tainter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.

**pH stayed below 3.

Do antacids have to taste
like chalk?



No chalky taste. New CREAMALIN tablets are not chalky, gritty, rough or dry. They are highly palatable, soft, smooth, easy to chew, mint flavored.

- NO ACID REBOUND • NO CONSTIPATION
- NO SYSTEMIC EFFECT

Adult Dosage: Gastric hyperacidity: 2 to 4 tablets as necessary. Peptic ulcer or gastritis: 2 to 4 tablets every two to four hours. Tablets may be chewed, swallowed with water or milk, or allowed to dissolve in the mouth.

Supplied: Bottles of 50, 100, 200 and 1000.

Winthrop

LABORATORIES • NEW YORK 18, NEW YORK

Tetracycline-Triple Sulfa Combination (TETREX® \bar{c} T/S) in the Treatment of INFECTION

It is generally agreed that it is ideal to withhold antibiotic and chemotherapeutic drugs until after sensitivity tests show which antibacterial agent will be most effective. But very often, in actual practice, the physician knows that delay in starting antibacterial treatment may be detrimental to the welfare of his patient. He must then select the therapy to meet the most serious and immediate threats to the patient.

Why Combination Therapy?

Certain infections do not respond as well to a single agent as to a combination. *Hemophilus influenzae* infections, which are frequent in children, are a particularly serious threat to infants and children up to about 3 or 4 years of age since they have not yet built up any appreciable immunity. Serious complications such as influenzal pneumonia, empyema, or meningitis may develop, especially in this age group. In fact, except for those periods when meningococcal meningitis is epidemic, *H. influenzae* is the most frequent cause of meningitis.¹ This gram-negative organism is highly susceptible both to the tetracyclines and to the sulfonamides. Even in severe infections, therapeutic failure can be virtually eliminated by giving sulfonamides plus tetracycline.¹ These two agents together constitute the treatment of choice, and give better results than either alone.²

Sulfonamides remain the drugs of choice for all meningococcal infections, including meningitis. They readily penetrate the blood-brain barrier and pass into the cerebrospinal fluid in good concentrations.³ In treating overwhelming meningococcal infections, and complicating infections of the upper respiratory tract caused by other organisms, the addition of tetracycline to sulfas can be valuable.⁴

In recent years the sulfonamides have again been prescribed more and more frequently. In certain serious infections, better results can be obtained with a combination of antibiotic and sulfonamide than with either drug alone (e.g., severe pneumococcal pneumonia or pneumococcal meningitis⁵). Furthermore, mixed infections, to which young children are particularly susceptible, often respond only to combination therapy such as tetracycline with sulfonamides (TETREX \bar{c} T/S).

Why Triple Sulfas?

Some sulfonamides, though therapeutically useful, frequently crystallize and cause renal dam-

age. Sulfonamide mixtures are designed to prevent this effect. It is known that different substances can coexist in solution without interfering with each other's solubility. In such a solution each component behaves as if it alone were present. Thus, a much larger total amount of sulfonamide can exist in the urine without precipitating if a mixture is administered than if the same amount of only one compound is given.

Similarly, there is less danger of hypersensitivity with mixtures. The incidence of sensitization varies directly with the dosage and is limited to the particular sulfa given. Simultaneous use of several sulfa compounds, each in partial dosage, tends to keep each drug below its own sensitization level.³ As with all sulfonamides, it is advisable to check for possible blood dyscrasias, rash, or renal toxicity during extended administration.

TETREX \bar{c} T/S, by combining only 167 mg. each of sulfadiazine, sulfamerazine, and sulfamethazine, practically eliminates serious renal damage and sensitization reactions due to sulfonamides while retaining the therapeutic efficacy of the total dose.

TETREX \bar{c} T/S can be administered with confidence in all severe and mixed infections due to tetracycline-sensitive and sulfonamide-sensitive organisms, including infections of the upper respiratory, urinary, and gastrointestinal tracts.

References: 1. Alexander, H. E.: The hemophilus group. In: Dubois, R. J.: Bacterial and Mycotic Infections of Man. Ed. 3, Philadelphia, J. B. Lippincott Co., 1958, p. 470ff. 2. Goodman, L. S., and Gilman, A.: The Pharmacological Basis of Therapeutics. Ed. 2, New York, The Macmillan Co., 1956, pp. 1322-1323. 3. Beckman, H.: Drugs — Their Nature, Action, and Use. Philadelphia, W. B. Saunders Co., 1958, pp. 527-528. 4. Dingle, J. H.: Meningococcal infections. In: Cecil, R. L., and Loeb, R. F.: A Textbook of Medicine. Ed. 9, Philadelphia, W. B. Saunders Co., 1953, p. 196ff. 5. Goodman, L. S., and Gilman, A.: The Pharmacological Basis of Therapeutics. Ed. 2, New York, The Macmillan Co., 1956, p. 1308.

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Tetracycline (ammonium polyphosphate buffered equivalent to tetracycline HCl activity) 125 mg.
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Sulfamerazine 167 mg.
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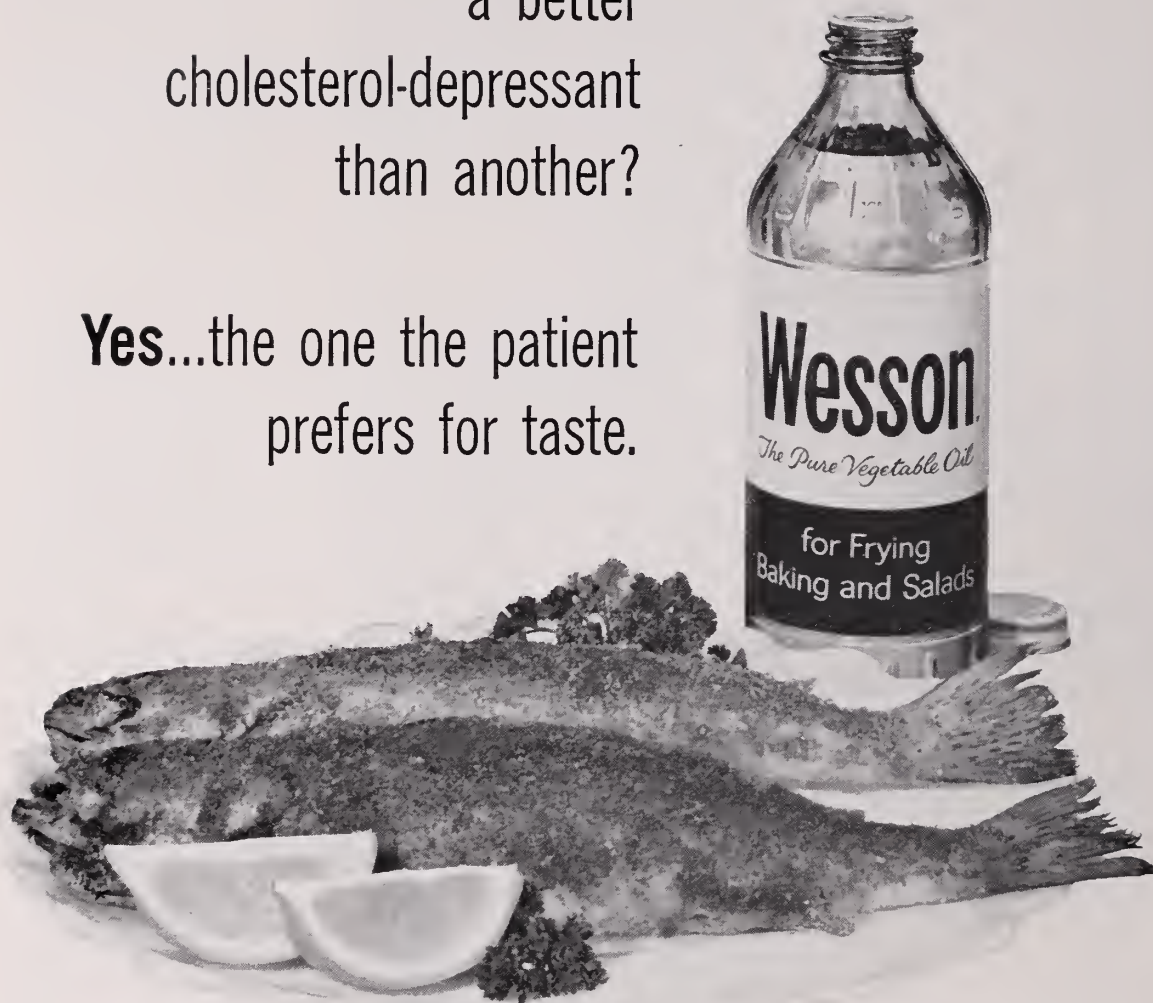
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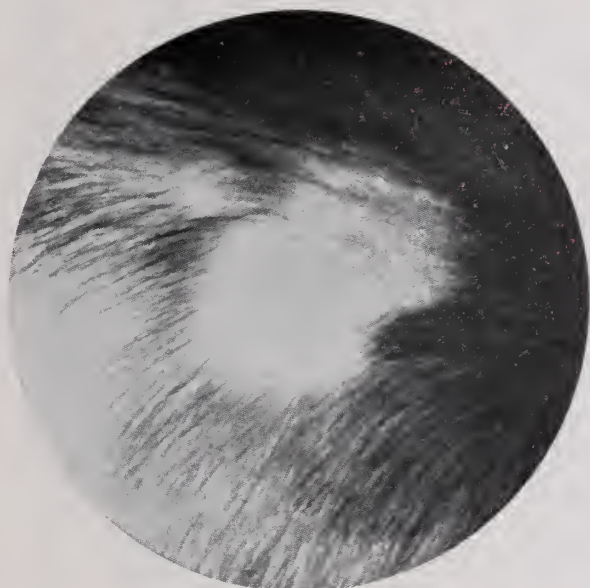
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1. Robinson, H. M., Jr., *et al.*: Griseofulvin, Clinical and Experimental Studies, A.M.A. Arch. Dermat., in press.

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Guest Editorial

The Doctor and the Detail Man

A CAREFULLY planned survey made by *Modern Medicine*, reported in the Harvard Business Review several years ago, revealed some interesting facts about attitudes of 129 practicing physicians concerning the detailing of drugs and detail men. Fourteen per cent of the physicians poled were unfavorably disposed and would prefer not to see any detail men. Seventeen per cent were favorably disposed, but qualified their feeling by protesting that there were too many detail men or that they were not well informed. Forty-seven per cent were without qualification favorably disposed and 22 per cent were enthusiastic.

Of the total of 69 per cent who were favorably disposed the following reasons for this attitude were offered: 1. The detail men brought useful information of new products before they were generally advertised. 2. Some well trained men actually were able to answer scientific pharmaceutical questions which the physician wanted answered. 3. The doctor welcomed the detail man for his pleasant personality and his ability as a story-teller and gossiping ability to while away time during lulls in his professional day, particularly if his practice was not a busy one.

Of the 31 per cent of physicians who reacted unfavorably the following were the reasons for their objections: 1. Excessive number of detail men became burdensome. 2. There was a lack of pinpointing by the detail men in products with which the physician or specialist was primarily interested. 3. Lack of accurate scientific information—the sales pitch seemed to predominate over factual presentation. 4. Interruption of office routine by non-scheduled arrivals of detail men.

All of the large pharmaceutical houses have employed detail men since about 1924. Since World War II the number of companies has vastly increased and even the smaller local distributing houses have added their men to the vast army of detail men. So for the past twenty years and particularly the past ten, the detail man with some notable exceptions has become a salesman first and a purveyor of scientific information, if any, a poor second.

This has led to a general deterioration of the once trusting relationship of the physician to the detail man. No longer is he sent out to inform the physician of scientific developments in the pharmaceutical field, but rather, by a brilliant sales talk frequently canned at headquarters by the advertising department, is the physician cajoled and by expensive charts brilliantly colored, using quotations from famous doctors or research workers of whom he has never heard. Furthermore, his good will is encouraged almost to the point of bribery by hand lotion for his secretary, pill boxes for his wife, and innumerable but expensive gadgets for his office and home. The physician is made to feel indebted to the manufacturer of a particular drug, and in

a subconscious human way he feels induced to use the drugs of the nice man who has provided him with a pen which will write for a whole year under water or through butter if necessary. Actually, these gratuities are costing his patient more at the drug counter and him more in taxes as the cost of these items is merely written off as expense and hence, to that extent, is paid for by the Federal Government. Doctors are not commercial merchandisers nor should the pharmaceutical houses treat them as though they were. I am afraid the advertising departments of many drug houses have taken over completely the policy of professional relationship which they could never understand and so have lowered the professional image of their companies. The answer to this may be money. Here again research is outpricing itself. The result is professional deterioration, a loss of sight of the primary objective of the pharmaceutical manufacturer, and a rising suspicion on the part of the physician.

Further example of professional deterioration can be sighted in the behavior of a few detail men who have brought ill feeling on those who are ethical. Reports of rummaging through the files of pharmacies to learn the prescription habits of the physician are constantly coming to the attention of the physician, brazenly by the detail man himself. He often seems to know more about the doctor's prescription habits than the doctor himself. Invasion by the detail man of public hospital records on the floor has recently caused two large hospitals to restrict interviews of detail men with their house officers.

Ethically trained men would not even think of this type of market surveying. Unfortunately during World War II when trained men were unavailable, high powered salesmen with little or no scientific or pharmaceutical background were employed to visit physicians. They could offer only ventriloquistic recordings and were stumped by the simplest scientific question. They wasted the doctor's time and created a poor image of their company. Their days, I am pleased to say, are numbered, and I believe the tendency is already back to the trained pharmacist or scientist, who has both the capacity and the motivation of the true professional detail man.

The ideal detail man would, in my own opinion, be a trained pharmacist or research worker who is interested in the scientific value and use of his product, its limitations, dangers, price and advantages over his competitors. There is no harm in clothing it attractively in his presentation. He should not consider himself a medical authority or give answers which he is not capable of giving. He should refrain from asking the physician to promise to use his product or do anything to check up on whether the doctor used his products. He should avoid gossiping about other doctors or other detail men. He should respect the doctor's time, and offer to come by appointment. He should be proud of his profession and do everything possible to keep it on a professional level.

I am happy that the great majority of the detail men whom it has been my pleasure to know qualify. My hope is that those in charge of drug manufacturing will understand that the image of their company in the doctor's mind is made to a great extent by the detail man in the local scene. Personality is always indelibly impressed on the product. I like the motto of a well known American drug manufacturer, "The price-less ingredient of every product is the honor and integrity of its maker."

JOHN P. LYNCH, M.D.

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The Child Handicapped by Cerebral Palsy

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CEREBRAL PALSY may be defined as a neuromuscular disability caused by injury to the brain. Thus cerebral palsy may be described as a group of conditions, which may originate before birth or during infancy and childhood. In addition to the motor dysfunction, we find 53 per cent of these brain-damaged children have associated eye conditions; approximately 75 per cent have speech problems; 70 per cent of those coming for treatment are mentally retarded, and about five per cent have a hearing loss. Also there are sensory defects, convulsions, learning difficulties and behavioral disorders of organic origin.

Studies have indicated that approximately one infant in every 200 live births will be born with cerebral palsy—one every 53 minutes. It has been estimated that throughout the United States there are approximately 550,000 persons with cerebral palsy, 200,000 of whom are under 21 years of age. Cerebral palsy is now the most common condition crippling children.

ETIOLOGY

There seems to be no economic, social or geographical predilections for cerebral palsy. The etiological factors may be classified as follows:

Prenatal—from the time of conception to the time of the labor.

- a. Hereditary. Tay-Sachs disease and tuberous sclerosis.
- b. Congenital. Anoxia, maternal infections, metabolic disease, and Rh factor.

Natal—from the onset of labor to the birth of the child.

- a. Anoxia. Due to obstruction of cord.
- b. Asphyxia. As a result of mechanical respiratory obstruction.
- c. Analgesics. Affecting the respiratory center of the infant.
- d. Trauma. Injuring the brain during labor or by forceps delivery.

- e. Sudden Changes in Pressure. As in caesarean section.
- f. Prematurity.
- g. Low Vitamin K Level.

Postnatal—from the time of birth of the child.

- a. Trauma. Skull fractures or wounds.
- b. Infections. Meningitis and encephalitis.
- c. Vascular. Hemorrhage, thrombosis and embolus.
- d. Anoxia. Carbon dioxide poisoning.
- e. Neoplasms.

In order to verify some of the statements concerning the etiology, we selected 100 children in our clinic and obtained the records of the attending physician, the obstetrician and the hospital records. After an analysis of this data and correlation of all factors, the following conclusions were reached:

1. Sex was not a predisposing factor.
2. The age of the mother was apparently not a predisposing factor.
3. Being the first-born did not definitely act as a predisposing factor, for there were almost as many first-born normal siblings of children with cerebral palsy in our study as there were first-born cerebral palsied children.
4. Prematurity was definitely a predisposing factor. However, 50 per cent of the mothers had had some complication of pregnancy which could have been the direct cause of the prematurity of the infant. Prevention of prematurity, therefore, has to be through the mother.
5. Though the range of birth weights of the children in our study did not reveal even the normally expected percentage of heavy infants, in three cases excessive birth weight was probably a predisposing factor.
6. Multiple pregnancies with the associated prematurity may be considered as a predisposing factor.
7. Prenatal anoxia was considered an etiological agent in fifteen of our children with cerebral palsy, and in two of these cases was the only factor.
8. The percentage of mothers with toxemia was the same as seen in all gravidae. All of the

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DEAYER, GEORGE G., M.D., *Medical Director, Children's Division, Department of Physical Medicine and Rehabilitation, New York University—Bellevue Medical Center.*

infants were premature, and five of the six had the spastic type of cerebral palsy.

9. Seven per cent of our cases were due to the Rh factor.
10. Diabetes was apparently an etiological factor in two children.
11. Two children had cerebral palsy due to infections in their mothers.

Our impression from the study of these 100 children is that the case of cerebral palsy caused by a single etiological factor is the exception, and that most cases are probably due to multiple etiological factors. It is quite evident that better obstetrical care during the antepartum period and the delivery would lessen the incidence.

Two of the causes of cerebral palsy are erythroblastosis and prematurity, and special consideration should be given both to the care of these infants and to preventive measures.

CLASSIFICATION OF TYPES

Having decided that the child has a neuromuscular disability and can be diagnosed as cerebral palsy, it is then necessary to classify the type which is based upon the observable clinical signs. There are six types of cerebral palsy which may be diagnosed as follows:

1. *Spasticity*. The spastic type is characterized by signs of pyramidal tract involvement, and is thought to be the result of pathology to the pre-motor area of the cortex. Characteristic of this type is a constant hyper-irritability of the muscles to stimuli. There is a stretch reflex and the muscles react by contracting. The deep reflexes are increased in the affected parts and when the lower extremities are involved the Babinski sign is present. To test for spasticity, the muscle group is placed in the contracted position and then suddenly moved in the opposite direction. If spasticity is present there will be a blocking or slowing up of the movement. Every muscle group must be tested in this manner to detect the parts of the body involved. Approximately 66 per cent of cerebral palsied patients are of the spastic type.

2. *Athetosis*. The chief characteristic of this type, which makes up about 19 per cent of the total number, are the slow, worm-like, involuntary, uncontrollable, unpredictable and purposeless motions.

Dr. Winthrop Phelps has classified twelve types of athetosis to which he gives the following descriptive names:

- | | |
|-------------|-----------------------|
| 1. Rotary | 7. Non-Tension |
| 2. Tremor | 8. Hemi-Athetoid |
| 3. Dystonic | 9. Neck and Arm |
| 4. Shudder | 10. Deaf |
| 5. Flail | 11. Balance Release |
| 6. Tension | 12. Emotional Release |

3. *Rigidity*. About four per cent are of the rigid type which may be diagnosed by the resistance to slow passive motion. When the part is moved there is continuous resistance in agonist and antagonist muscles, simulating the sensation of bending a lead pipe. This is referred to as "lead pipe" type of rigidity. In some cases there is a discontinuous type of resistance and it is diagnosed as "cogwheel" rigidity. The degree of rigidity may vary from time to time, being present at one time and absent a few minutes later. The term "intermittent rigidity" is applied to this characteristic. The principal clinical finding in rigidity is the hypertonicity of the muscles rather than excessive motion. In many cases the rigidity is so great that no motion is present.

4. *Tremors*. The chief characteristics of this type are the involuntary, uncontrollable motions that are reciprocal and regular in rhythm. They are due to alternate agonist and antagonist contractions. The tremor type make up about two per cent of the total number of cerebral palsied patients.

5. *Ataxia*. The principal sign noted in the ataxia patient, estimated to be about eight per cent of the total, is disturbance of balance and equilibrium. The pathological lesion is due to involvement of the cerebellum and its tracts. The usual signs of "past-pointing" and "rebound phenomenon" are present but it is usually impossible to elicit these signs in an infant. It is difficult to diagnose ataxia in the infant until he starts to walk, when the disturbance in balance and equilibrium may be noted.

6. *Mixed Types*. Not all children with cerebral palsy can be diagnosed as true spastics, athetoids or ataxias. About 1 per cent of the total may be mixed cases in which all of these types may exist. Spasticity and ataxia usually appear as pure clinical types.

CLASSIFICATION ACCORDING TO EXTREMITIES INVOLVED

Having diagnosed the type of cerebral palsy it is necessary to describe the extremities involved.

The child who is diagnosed as a spastic may be a paraplegia, hemiplegia, triplegia or quadriplegia. All the other types, except in a very few cases, have

all four extremities involved and are classified as quadriplegias.

EARLY SIGNS OF BRAIN DAMAGE

The growth and development of the normal infant usually follows definite motor, adaptive, language and personal social patterns. By observing the behavior patterns of any child, the physician can match them against those of the normal child at the same age level and arrive at an estimate of the maturity level. Retardation in growth and development is usually observed if the brain is damaged.

It is relatively easy to detect the brain-injured child with spasticity and the severe rigidity types during the first few months. Those with mild degrees of athetosis and ataxia are seldom diagnosed until the child starts to walk.

We should be suspicious of brain damage during the first four weeks if the infant is lethargic, somnolent, fails to suck well, does not respond to stimuli, has respiratory difficulties or twitching or convulsions.

Brain damage should be suspected at about 3 to 4 months of age if any or all of the following are still present:

Shoulder lag, head lag, strabismus, thumb in cortical position, absence of reciprocal kicking, extension thrust, and inability of the child to raise its head and support itself on its arms in a prone position. This can be further corroborated at about 8 to 10 months of age if the child in addition is unable to roll itself over, pull itself to a sitting position and sit with fairly good balance without support. There should be at this age a purposeful reach, grasp and release.

Less than one per cent of normal children have strabismus at birth and 53 per cent of brain-damaged children. A child born with cross-eyes demands a careful neurological evaluation. If the child has not developed a reciprocal movement of the legs and the thumbs are overlapped by the fingers at the end of the third month we can suspect there is brain damage.

It is important to remember that the child with no neuromuscular disability but who is mentally retarded will be delayed in growth and development. If you examine a child at one year of age who has no neuromuscular involvement but is just able to sit erect unsupported, shows no cranial nerve involvement and does not say "Mama" we must conclude the child is retarded and his mental age is about nine months.

TREATMENT

Before outlining any program of treatment it is essential to evaluate intelligence, hearing, vision and speech. This requires the services of other qualified professional personnel, which can best be obtained at a cerebral palsy center.

The physician's responsibility is to supply the following information:

1. Etiology. Congenital or acquired and possible cause.
2. Diagnosis. Cerebral Palsy.
3. Classification of Type. Spastic, athetoid, ataxia, rigidity, tremor or mixed.
4. Disabilities. The parts of the body involved, such as hemiplegia, paraplegia, etc.
5. Severity. Mild, moderate or severe.

The *purpose* of treatment for any physically handicapped child is to teach him to meet the physical demands of daily living so that he can care for his toilet needs, have the maximum use of his hands, ambulate and have adequate speech and hearing. There is no unanimity of opinion on a specific method of treatment of the various types of cerebral palsy.

Time does not permit me to discuss the specific types of treatment recommended to meet the total needs of the brain-injured child. Therefore, I would like to present to you my opinion on the place of the family physician in helping the parents with the brain-injured child. No matter what you think, never say to a parent "the child is a hopeless case and you should put him in an institution." It is this type of advice which send these parents to the chiropractor and other cults. You can explain the problem to the parents and refer them to a cerebral palsy center or to a therapist for treatment. As the family physician you should care for the nutritional needs of the child and treat the respiratory and communicable diseases when they occur and give the parents the supportive help they need.

The general methods of treatment we use are as follows:

1. Have the therapist show the mother how to move the joints to prevent contracture.
2. Have the father build or buy the proper type of chair so the child can sit erect and develop head control.
3. At about 14 months of age we place the child in double long leg braces with a Knight spinal attachment. The father is then given the plans to make a "stand-up table." This is a box

with a tray attached. The child is placed in this box in his braces and thus develops standing balance and toys are placed on the tray in order that the child can develop hand coordination through play activities.

4. As the child develops physically and mentally he is then placed in the parallel bars where he is taught to grasp the bars and balance himself in the erect position. Then the hip locks are opened and he learns to ambulate with a four-point gait.
5. When this has been accomplished he is given crutches and taught how to ambulate with braces and crutches.
6. As the child develops we then open the knee locks on the braces to develop knee motion.

It is our hope to gradually reduce his braces as he develops strength and coordination. During this period the occupational therapist is teaching the child to dress and to feed himself, and the speech teacher is training the child in speech.

How far the child attains our goals depends upon the severity of his disability, his intelligence and cooperation. We cannot prognosticate the future potentials in all cases. Some of my children with a high I.Q. are not trainable as they will not cooperate, and I have some children with a 60 I.Q. who are making good progress.

DRUGS

The drugs which have been recommended to control abnormal neuromuscular movements, such as spasticity and athetosis, have proven to be of little or no value. Many of these children, especially the spastic hemiplegia child, have seizures. There is no drug which is effective in all types of seizures, and it is necessary to experiment clinically with drugs in various combinations. Phenobarbital is the drug of choice for grand mal seizures in children and Delantin in adults or a combination of the two. Mesantoin is the drug of choice when both grand mal and petit mal coexist. Bromides may be employed when none of the above are effective. Tridione and Paradione

are the drugs of choice for petit mal. Both of these drugs have a synergistic toxic effect with Mesantoin.

SURGERY

Operative procedures on the muscles, tendons, nerves and bones are performed to correct deformities which interfere with rehabilitation or function. They have no curative effect. In the growing child it is often a useless procedure to operate if therapy or braces are not prescribed as the condition will occur as a result of growth. The greatest benefits are derived from surgery on the lower extremities of those with the spastic type of cerebral palsy.

During the last few years Dr. Irving Cooper has developed a neurosurgical operation on the brain for controlling involuntary movements. This procedure has good results in selected cases of Parkinson's Syndrome and excellent results in dystonia muscularum deformans but very poor results in our athetoid and rigidity types of cerebral palsy.

SUMMARY

In order to reduce the incidence of cerebral palsy it will be necessary to give more attention to the prevention of prematurity, immediate transfusion of infants with kernicterus, and for the family physician to give more attention to those things which we now know may cause injury to the brain.

If we are to help the cerebral palsied child and his parents it will be necessary for physicians to recognize the early signs of brain damage and plan programs of treatment.

To carry out a treatment program to meet the total needs of the cerebral palsied child requires personnel trained in the methods of evaluating neuro-muscular disabilities produced by brain damage and physical facilities to give the prescribed forms of therapy.

With increased interest and better understanding of the needs of the cerebral palsied child, we can expect many of these problems to be corrected.

*400 East 34th Street
New York 16, New York*

Minimizing the Genetic Hazard of Medical Radiation

GEORGE COOPER, Jr., M.D.
Charlottesville, Virginia

IN 1895, a German physicist, Wilhelm Conrad Roentgen, performed a famous experiment in which he enclosed a Crookes vacuum tube in a light and cathode ray-proof cardboard box, activated the tube while his hand was interposed between the box and a photographic plate, and found, on developing the plate, a shadowgraph of his hand. Because of the unknown nature of the invisible rays which had affected the plate, he called them x-rays.

The discovery of x-rays was in itself a terrifically exciting thing, the drama of which we still appreciate, but the familiarity of daily use has staled the drama of the plate, on which was seen a shadowgraph of the invisible structures of the hand as well as of the visible. For the first time in human history, it was possible to visualize subcutaneous anatomy and gross pathology in a living, intact subject. Rarely has a discovery been put to more prompt use. Within a few months, physicians were using x-rays to produce roentgenograms for medical diagnosis. In the 64 years that have passed, roentgenographic procedures and techniques have been devised which permit visual exploration of almost every macroscopic portion of the human organism. The accuracy of medical diagnosis has been incalculably advanced. For modern medicine to reach and maintain the high level at which it is now practiced, roentgenography was and is indispensable.

The development of the science of radiology, of which diagnostic roentgenology is a subdivision, has been accompanied by a growing understanding of the action of ionizing energy in tissue. This understanding is based on human suffering. Before the introduction of the hot cathode tube by Collidge in 1913, the uncertain x-ray output of the gas tubes, plus ignorance, led to many tissue reactions in the patients exposed to ionizing radiation. Most of the severe, avoidable injuries were sustained by the scientists who laid the foundations of radiology. Their innocently careless handling of x-rays and radium

in time caused degeneration of the skin of the hands, leading to chronic ulcerations, carcinomas, amputations, and all too often to death itself. Gradually data was accumulated which made it possible to anticipate biological effects in terms of r dosage, the quality of the beam, its intensity, the volume of tissue radiated, the duration and frequency of exposure, etc.

Continual improvement in equipment led to exact control of x-ray output and to the production of roentgenograms of better quality, with the absorption of smaller amounts of ionizing energy in the tissues. It seemed that diagnostic roentgenology was moving from troubled to quiet waters until H. J. Muller discovered that radiation of the gonads accelerates the rate of mutation. This work was begun in about 1926, but it was not until 1946 that Muller received the Nobel Prize, and it was not until the present decade of rapid development of uses of atomic energy that the general public has become alarmed about the hazard of ionizing radiation. As the subject has been one of deep concern to radiologists from the early days of the development of their specialty, and as it is the radiologists who are responsible for the continually greater safety with which diagnostic roentgenology is practiced, they have been surprised at the sudden interest and dismayed at the fear with which some of their patients have been approaching them.

EXPOSURE TO RADIATION UNAVOIDABLE

After all, man cannot escape radiation. It is a part of the world in which he lives, a variable but ever present component of his environment. To add something to his background dosage does not introduce a new element in his journey through life. It is estimated that cosmic radiation and radiation from his surroundings produce an average 30 year cumulative gonadal dosage of 3000 to 4500 r. In a certain section of India, soil of unusual radioactivity may produce a 30 year cumulative gonadal dose of as much as 50,000 mr.¹ Incidentally, preliminary study

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Presented at the Annual Meeting of The Medical Society of Virginia, Roanoke, October 4-7, 1959.

of the inhabitants of the area shows no obvious evidence of somatic or genetic injury.

Nevertheless, because the hazard of radiation cannot yet be exactly defined, needless exposure should be avoided. In medical diagnosis, radiation should be used purposefully and the value of the information sought should outweigh the estimated hazard. When this principle is followed, the somatic hazard can be accepted as a calculated risk. In careful hands, it is less than many other hazards, medical and non-medical, accepted daily without qualms—anaesthesia, transfusions, automobile driving. The genetic hazard is another matter.

IMPROVEMENTS IN TECHNIQUE AND EQUIPMENT^{1,2,3,11}

At this point, it is appropriate to review some of the measures radiologists are taking to minimize patient dosage during roentgenography. As they came to realize that even minute doses of radiation might be harmful, radiologists increased the filtration in their diagnostic units. Filtration of the x-ray beam cuts down the dosage to the patient by reducing the softer quality energy which is relatively unimportant in the production of the differential densities upon which depends the usefulness of the roentgenogram and the fluoroscopic screen. Dosimetry studies show that when x-ray beam is passed through a woman's abdomen, a 2 mm. Al filter cuts the skin dose over 50% and the ovary dose 20 to 25%. A 3 mm. Al filter reduces the skin dose by about 67%, the ovary dose by about 33%. Heavier filtration is of practical value only when kilovoltages of over 100 are used. Then filters of up to 0.25 mm. Cu are advantageous.

Reduction of either exposures time or milliamperage reduces the r dose received by the patient. With help and encouragement from radiologists, the x-ray film and equipment manufacturers have developed film and cassette screens of extraordinary speed, which permit reduction of exposure time, and ways of intensifying the fluoroscopic image, which permit reduction of milliamperage. Superior equipment makes it possible to use higher kilovoltages, and this, too, permits a reduction in milliamperes and exposure time.

New and better safety devices are constantly being added to x-ray equipment, lessening the chance of leaks and scatter, and the units are checked regularly by radiation physicists.

In order to eliminate unnecessary direct radiation of tissue and to minimize scattered radiation of

nearby tissue, cones and shielding are used to full advantage. The examination is carefully planned to expose the smallest area permitting satisfactory visualization of the field of interest (Fig. 1). As



Fig. 1—At one time, it was common practice to include the entire abdomen on the initial roentgenogram in a gall bladder series. Today, the volume of tissue radiated is reduced by using a round cone to limit the field.

radiation beyond the x-ray film is obviously purposeless, rectangular cones to fit the film are often more useful than round ones because they permit the edges to be left unexposed (Fig. 2). All of these measures are equally useful in reducing the somatic hazard to the individual and the genetic hazard of radiation.

THE GENETIC HAZARD

To consider further the latter, a combination of lack of information about the exact genetic effect of a given x-ray dosage and about the precise amount of gonadal radiation which people are now receiving causes difficulties. To weigh the value of medical information which can be obtained only by radiating the gonads against the genetic hazard is not yet possible. But since it must be assumed that any dose of radiation, however small, can induce mutations and since the genetic damage done by radiation is cumulative, particular attention must be paid to the amount of radiation absorbed by the gonads.⁴ Physicians have been heartened by recent reports from

the Russells, which were summarized by Cockcroft⁵ in these words. "Hitherto, the direct proportionality of gene mutation with dose of radiation has been accepted as a law which holds, irrespective of dose



Fig. 2—G.I. radiograph taken with a rectangular cone small enough to leave the periphery of the film unexposed.

rate, down to the lowest accumulated doses. W. Russell and L. B. Russell have produced evidence for departure from linearity in the relation between mutation rate and dose for point mutations in the spermatogonia of male mice. Furthermore, they have shown that the mature egg cell of female mice is substantially less sensitive to the induction of mutations than the spermatogonia of the male. . . . These two facts will probably necessitate a complete reconsideration of the quantitative prediction of the genetic hazard." Physicians hope this reconsideration will ease tension.

A number of studies have been done to determine gonadal dosage delivered in the course of diagnostic x-ray procedures.¹² A review of these studies shows that the male gonads receive a large amount of scattered radiation during examinations in which they are at a distance from the direct beam of radiation than do the female gonads under the same circumstances. This is due to the protection afforded the ovaries by the thick pelvic tissues. But though

the exteriorized position of the testes exposes them to scattered radiation, their location makes it possible almost always to keep them out of the direct beam. Their location also makes it possible sharply to reduce the dosage from both direct and scattered radiation by the use of simple protective shields (Fig. 3). By adding to other details of good



Fig. 3—Radiograph of a male pelvis with a gonadal shield in place.

technique, the shielding of the testes during roentgenography of the lower abdomen, pelvis, and hips, the dosage to the male gonads can be reduced by a factor of 20 or better.²

The position of the ovaries protects them from scattered radiation when they are at a distance from the beam, but on the other hand it requires them to be in or very close to the direct beam during a variety of diagnostic procedures involving the roentgenographic or fluoroscopic visualization of structures in the abdomen, pelvis, and hips. Because of the relative unimportance of the somatic hazard and the ease of avoiding testicular exposure, in the well run department of radiology, concern about genetic hazards of roentgen diagnosis can be focused upon a limited number of procedures in which the beam of radiation must be passed through or near the ovaries of female patients still within the child bearing age.

OVARY DOSES

Review of those portions of some of the studies to determine gonadal dosage^{2,6,7,8,9,10} during diagnostic x-ray procedures which deal with these examinations in females shows a wide range of figures (Tables I and II).

Table I
OVARY DOSE PER EXPOSURE

	Stanford & Vance, '55	Martin, '55	Webster & Merrill, '57			Cooper & Williams, '58	
			Adult	10 yr. old	3 yr. old		
Abdomen Low KV High KV	200 mr		125 mr	95 mr	46 mr	117 mr 74	
Gall Bladder	5.2	90 mr	2-3			9 (rt. ovary) 6 (lt. ovary)	
GI—AP	9	150	50	95	48	22	
Oblique	9		70			34	
Lateral			60				
Ba enema—AP	20		190	110	48	154	
Oblique			250				
Lateral			280				
Lumbar spine							
Low (AP	227	50	150	65	50	304	
KV (Lat.	86	150	240	180	110	58*	70**
High (AP	40						
KV (Lat.	16						
Pelvis Low KV	210	300	115	50	50	245	
High KV							
Lat. Lumbosacral	800	500				418*	253**
Hip (AP						236*	52**
(Lat.			410	150	50		
In Pregnancy							
Abdomen, Low KV	260	1500				220	
Abdomen, High KV							
Lat. Abdomen						557*	345**
Lat. Pelvis						1077*	489**

* Ovary nearer source.

** Ovary farther from source.

Table II
OVARY DOSE PER EXAMINATION

	Stanford & Vance, '55		Martin, '55	British Medical Research Council, '56	Cooper & Williams, '58 (fluoroscopy dosage not measured)
	Hosp. A	Hosp. B			
Abdomen	700 mr	740 mr	203 mr	200 mr	234 mr
Retrograde Pyelography			803	1290	234
I. V. P.	2320	1030	1360		468
Cholecystogram	4.7	0	378	15.6	52
Ba Meal	22.5	18	360	9	241
Ba Enema	12	6	520	20	616
Lumbar Spine				713	780 (ovary nearer source)
Lumbar Spine and Sacro-iliac Joint	1585	1515			
Lumbosacral Joint			1025		
Sacro-iliac Joint				713	722 (ovary nearer source)
Pelvis	294	357	800	210	245
Hip	420	273	440	210	481
Pelvimetry	535	2140		1280	1517

The wide range emphasizes the opportunity for control of ovary dosage by careful selection of equipment and technique and by thoughtful planning of procedures. It also points up the fact that equipment, technique, and procedure are not standardized but are varied by individual radiologists. Finally, it must be remembered that variations in human physique make ovary dose measurements in one patient inapplicable to the next patient. There is, at present, no practical way to determine, as a matter of routine, the exact dosage delivered to each patient as she is examined. Nevertheless, the available data permit a close enough estimate for clinical guidance.

Badly needed at this point is information which will permit a fairly exact idea of how many roent-

genographic examinations of females within their productive years are being done which involve direct radiation of the ovaries or indirect radiation from a nearby beam. As a contribution to that end, the number and age distribution of such examinations done in the Department of Radiology of the University of Virginia Hospital in the year 1957 were determined (Table III).

The genetic significance of this radiation is uncertain, but our experience indicates that assuming only essential examinations are performed during pregnancy, the greatest opportunity for reducing ovarian dosage lies in strict evaluation of the need for roentgen investigation of the gastrointestinal tracts, the gallbladders, the lumbar spines of young women, and of repeated roentgenograms in the han-

Table III
DISTRIBUTION OF ROENTGENOGRAPHIC PROCEDURES INVOLVING
SIGNIFICANT OVARIAN DOSAGE, 1957
University of Virginia Hospital

	0-5	6-15	16-25	26-35	36-45	Subtotal 46-	45+	Total No.	Estimated average ovary dose (adult) per exam. mr.
Abdomen	31	20	81	89	77	298	394	692	234
KUB	2	8	30	45	48	133	200	333	234
Retra. Py. Cystog.	10	8	14	12	28	72	112	184	234
IVP	12	33	52	89	102	288	241	529	468
GB	1	10	54	107	143	315	394	709	52
Cholang.	1	3	2	4	9	19	18	37	52
GI	15	19	82	143	205	464	551	1015	241
Sm. Bow.	3	5	5	9	12	34	36	70	616
Ba Enema	8	19	36	106	193	362	442	804	616
Pelvim.	0	7	78	21	5	111	0	111	245
Placent.	0	29	213	67	10	319	1	320	777
Salping.	0	0	31	40	6	77	0	77	322
Fetal Det.	0	6	19	26	9	60	0	60	777
Lumbar Sp.	18	34	80	135	161	428	432	860	780
Pelvis, Coccyx	33	18	45	50	68	214	198	412	245
Hip	66	34	24	20	34	178	263	441	481
Lumbar Myel.	0	0	5	13	24	42	36	78	780
Totals	200	253	851	976	1134	3414	3318	6732	

No. of Patients
46- —1976 55%
45+ —1599 45%
Total—3575

Examinations per patient (46-) 1.73
Examinations per patient (45+) 2.07

dling of hip disease in very young girls. In regard to serial studies of hip disease, shields can easily be placed on the abdomen (Fig. 4) over the ovaries



Fig. 4—Roentgenogram of the hips of a female with a gonadal shield in place.

to protect them from the direct beam without obscuring the field of interest. The younger and smaller the subject, the easier it is to place shields accurately, but with care, the ovaries of adults can be shielded in this way. This measure can be used to advantage, not only in the examination of the hip, but whenever shields can be placed over the ovaries without concealing structures which need to be visualized.

OTHER GENETIC HAZARDS

Finally, in trying to evaluate genetic hazards, it is important to keep the whole picture in focus. Most radiation for medical purposes is carefully administered by physicians who are fully aware of the potential dangers, who have analyzed them, and are minimizing them. But ionizing energy is now being used for many non-medical purposes, and the amount of radioactivity in our environment is steadily increasing. Of this people are aware, and the situation is being studied and followed. However, modern medicine threatens the vigor of the race in a way to which little attention is paid. Improved methods of diagnosis, advances in the medical treatment of disease, and the astounding accomplishments of modern surgery are preserving and rehabilitating the bearers of undesirable genes. The physician's concern is for the individual. When he can keep a hemophiliac going by giving transfusions, or prevent a frail child's death from infection by antibiotics or surgically correct a congenital deformity incompatible with life, when he can do any

of these and many other things, he does so. Nature, in her cruel way, intended the elimination of those individuals. Modern medicine adds their genes to the genetic pool.

Sir F. MacFarlane Burnet, in the 1958 Cutter Lecture at Harvard Medical School, considered another aspect of this problem in these words: "... Perhaps it will eventually be recognized as one of the most significant features of the early 20th century that, as a by-product of more and more powerful therapeutic procedures and the production of chemical substances outside of biological experience, the normal protective barriers keeping mutagenic agents from the internal organs have been more and more frequently penetrated.

"Ionizing radiation is the most important such agent, but others must also be at work. As yet, the only evidence of their presence is the increasing incidence of leukemia.

"This increase may be only a tiny payment for the advantages of a scientific civilization, but it is disquieting. It raises the lurking fear that anything which is increasing the incidence of leukemia may also be breaking through those other barriers which in the past have protected the germ cells from mutagens. . . . We have now recognized the importance of ionizing radiation, and know how we should act in regard to it. On the chemical side, we have hardly begun."

And there are other factors to consider. Ionizing energy is not the only thing that has been proven to increase the rate of mutation. An increase in the temperature of the gonads has the same effect. Someone has figured out that raising the temperature of the human male gonad by 3 degrees doubles the rate of mutation, and that men's trousers raise the temperature of the gonads by an average of 3 degrees. Perhaps the measure being taken by the



Fig. 5

distraught father in figure 5 is as important as avoiding a few milliroentgens of gonadal radiation—or perhaps men should shift from trousers to kilts.

SUMMARY

1. By taking full advantage of modern equipment, by using careful technique, and by planning examinations thoughtfully, the diagnostic roentgenologist is minimizing radiation dosage.

2. Concern about the genetic hazards involved can be focused on those procedures which require passing the x-ray beam through or near the ovaries of females not past the child bearing age.

3. Ionizing energy used intelligently for medical purposes probably poses only a minor threat to genetic health. Other factors deserve attention.

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Detrimental to Night Driving

The use of any night driving lens or windshield, whether tinted, reflecting or polarizing, has been condemned by the Committee on Industrial Ophthalmology of the American Medical Association's Council on Industrial Health. The committee—whose concern is the functions and diseases of the eye as related to industry—delivered its opinion in the October 17th issue of the *A.M.A. Journal*, after receiving many inquiries. Its opinion is:

—That a night driving lens or windshield reduces the light transmitted to the eye, and actually makes seeing at night more difficult.

—That the source of night driving glare is the contrast between the headlights of oncoming cars and the darker surroundings. This contrast is not reduced by the use of tinted lenses or windshields. Instead, they really reduce the intensity of illumination from both the headlights and the surroundings. This impairs vision.

—That there is no scientific evidence to support any claim that the use of tinted lenses or windshields improves night vision.

The Use of Phenelzine, an Antidepressant, in General Practice

A Preliminary Report of Two Hundred Cases

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THE INTRODUCTION of true antidepressant compounds has been said to be one of the most significant events to occur in medicine during recent years. The value of these drugs in psychiatry has been repeatedly stressed. However, the role they can play in a general medical practice is no less important. It is conservatively estimated that one-fifth of all patients seen by a general practitioner have no organic disease to account for their symptoms. Another third have symptoms which are completely out of proportion to the organic disease which may be present. Obviously the general practitioner is burdened with a large share of the treatment of patients with psychogenic disorders, and often the management of these patients presents one of the most frustrating problems a physician can encounter.

There has been a widespread use of ataractics in recent years. Although ataractics have a definite place in therapeutics, their use in depressed states is limited, and in many cases even contraindicated. A large number of patients with psychogenic disorders are given ataractics for the relief of anxiety symptoms. Since the anxiety is actually due to depression, the response if any, is transient and occasionally the patient may become even worse. Thus the advent of the true antidepressants represent a great contribution which can be of immeasurable benefit in the management of the depressed, emotionally disturbed, and chronically ill patients so often seen in a general medical practice.

This report is based on a clinical evaluation of Phenelzine, a new antidepressant. Phenelzine is a powerful inhibitor of monoamine oxidase activity.¹ Monoamine oxidase is thought to be responsible for the destruction of adrenergic substances and of serotonin, a chemical mediator, whose function it is to control the pulsation of the oligodendroglia, the cells which supply brain tissue with oxygen and nutrient material.^{2,3} The administration of a mono-

amine oxidase inhibitor such as Phenelzine, will protect adrenergic substances and serotonin, thus increasing the oxygenation and nutrition of the brain cells themselves. The brain can then function more efficiently and can also perform for longer periods without fatigue.

METHOD AND MATERIAL

Included in this investigation were two hundred patients seen in a general medical practice. Each patient exhibited a variety of symptoms associated with psychogenic disorders. Among the most frequently encountered were: sadness, irritability, apathy, insomnia, chronic fatigue, loss of enjoyment of life, frequent crying spells, loss of appetite, difficulty in swallowing, shortness of breath, palpitations, loss of memory and power of concentration, tremors, dizziness, and numerous gastrointestinal complaints. Seventy-six patients (38%) were men, 124 (62%) were women. The youngest was 17 years of age, and the oldest, 76. However, over 90% were between 40 and 50, the average age of the entire group being 47. No patient in this group was hospitalized, all were seen as part of a daily office practice. With the exception of the housewives and several older retired men, the majority were still working at their various occupations. Also, every patient had been under the observation of the investigator for a minimum of two years, and each had shown little or no improvement following previous therapy.

Of the 200 patients in this group, 96 (48%) had no evidence of an organic disease which could account for their symptoms. One hundred and four patients (52%) had one or more proven organic diseases; however, in every case, the number of their symptoms and the degree of their complaints far outweighed the severity of the disease present, a strong psychosomatic overlay being suggested. Actually, only 11 patients, the majority with cardiovascular disease, were considered to be in the "serious" category.

Phenelzine supplied as NARDIL by Warner-Chilcott Laboratories, Morris Plains, N. J.

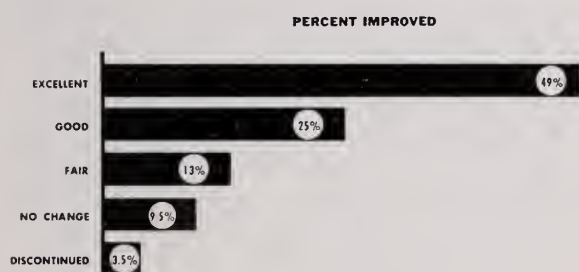
Before this investigation was undertaken, a review was made of all drugs received by the patients during the previous two years. It was found that 150 (75%) had been on some form of drug therapy for the treatment of their psychogenic disorders. Included among these medications were a variety of ataractics, analeptics, sedatives, hematinics, and vitamins. One hundred and four patients had also been receiving one or more drugs for the treatment of their proven organic diseases. Ten (5%) had been on no drugs of any type.

Before Phenelzine was started, all ataractics and sedatives were discontinued. Nine patients with problems of weight control continued to receive amphetamine derivatives throughout the entire period of investigation. With these nine exceptions, analeptics were also stopped. The starting dose of Phenelzine for everyone was 15 mg. orally, three times daily. The dosage was to be increased or decreased later according to individual response.

RESULTS

Results were tabulated after each patient had been on Phenelzine for a minimum of two months. The patients' responses were graded according to the degree of relief of emotional symptoms, change in personality and general appearance, and increase of interest and participation in outside activities. Results are listed in Table I.

Table I. RESULTS WITH PHENELZINE THERAPY



Since these patients were seen in the office and the majority were working, daily observations were impossible. Therefore, initially it was necessary to depend entirely upon the patients' own evaluations of their response to treatment. From the patients' point of view, improvement, in the majority of cases, was so rapid and impressive that personal evaluation was not difficult. This is particularly significant since these people had not been well for years, and had been almost completely resistant to other therapy. The majority stated that they began to feel better within two or three days after starting Phenelzine

and they noticed definite improvement after seven to ten days. Excellent results, when they occurred, were often dramatic and were apparent quite early. In all patients, maximum response was invariably noticed within one month.

Probably the two most frequent remarks made by the patients were "I haven't felt so good in years" and "I have a new lease on life." A large number stated that they were much less irritable and a frequent comment of many women was that they no longer felt depressed and ready to cry at the slightest provocation. Other patients mentioned "I'm not tired all the time," "I can do a good day's work now." Many commented on their increased enjoyment of food and their ability to sleep better. Several patients said they were participating in social activities again. Three patients were so improved that they discontinued Phenelzine of their own accord stating that they did not need it any longer.

Changes in the patients' personality and general appearance became increasingly apparent as therapy continued. A decrease in depression and apathy was especially noticeable. Tension appeared to be greatly lessened. Faces were alert and conversations interesting. Patients began to pay more attention to their personal appearance. They were neatly dressed and well groomed and many women were wearing cosmetics again. Many of the usual complaints about gastrointestinal disturbances, "heart trouble", "nervousness", and chronic fatigue had disappeared.

Earlier investigators^{4,5,6} have commented on the remarkable effect of monoamine oxidase inhibitors on the anginal syndrome. Five patients receiving Phenelzine had angina pectoris. Since Phenelzine was started, the frequency of attacks in three of the five patients had decreased by approximately 50%, and in a fourth patient anginal attacks have almost completely disappeared. The accompanying pain has also been significantly lessened.

Nine patients with problems of weight control were continued on amphetamine derivatives throughout the evaluation of Phenelzine. Also during this time fifteen patients received antihypertensive drugs containing reserpine. No untoward effects resulting from the combination of Phenelzine and these drugs were observed in any patient.

Placebo studies were done on only nine patients. It is extremely difficult to undertake adequate placebo evaluations in a group of ambulatory private patients particularly when they have psychoneurotic symptoms. Also, one is hesitant to substitute placebos while these patients are responding to treatment so

favorably. Within three to four days after the placebos were substituted, all nine patients began to experience a decrease in their feeling of well-being. Several days later, former complaints began to reappear. After the results of the substitution became obvious, placebos were discontinued and Phenelzine was restarted.

Since improvement was striking and side effects were minimal, no attempt was made to decrease dosage until the termination of the second month, when a gradual tapering off was started. At the present time, 17 patients have discontinued Phenelzine completely with no recurrence of former symptoms, and 114 are being effectively maintained on 15 mg. of Phenelzine a day. Of the remaining 69 patients, 43 are receiving 15 mg. two times a day, 19 have discontinued Phenelzine due to lack of improvement, and seven patients have stopped Phenelzine following the development of side effects.

SIDE EFFECTS

Only seven patients (3.5%) developed side reactions which necessitated the discontinuance of Phenelzine. Two patients became euphoric after taking Phenelzine for approximately one week. Two developed a generalized rash and three patients complained of nausea and headaches.

No adverse hypotensive effects were observed in any patient. The maximum blood pressure drop to occur was 15 mm. this being seen in three patients all of whom were on antihypertensive therapy at the time.

No evidence of toxicity to the liver, kidneys, or blood was noted. This further confirms the earlier findings of Sainz,⁷ Thal,⁸ and Bailey,⁹ that Phenelzine provides a large therapeutic margin of safety, thus enabling its broad application in general practice.

COMMENT

The ideal antidepressant should have no side effects, no liver toxicity, and should specifically affect only the mechanisms of psychic restoration. Phenelzine closely approaches this goal of specificity and freedom from side reactions. The high rate of favorable response, the rapidity of action and safety, make Phenelzine of great potential value to the general practitioner in the management of the "chronically ill" patients with a serious problem of depression, anxiety, and tension.

The following case histories illustrate the response obtained by most patients.

Case I—A 44 year old housewife with symptoms of anxiety referable to her heart and stomach. She also complained of chronic fatigue, irritability, insomnia and loss of appetite. All examinations were negative for the presence of organic disease. During the previous two years she had received four different tranquilizers and several sedatives, all without benefit. She was then started on Phenelzine 15 mg. three times a day. She began to feel better within several days and a pronounced improvement was noticed within ten days. Tension was greatly lessened and the majority of her anxiety symptoms had disappeared. She was sleeping well, eating better and complaints of fatigue were gone. Later she remarked that she was 100% better and that she had not felt so well in ten years. She is now on a maintenance dose of 15 mg. Phenelzine a day. There has been no return of former complaints.

Case II—A 49 year old man with a history of angina pectoris of two years' duration. Anginal attacks averaged about ten a week. He had symptoms of tension and anxiety and had complained repeatedly that he was tired all the time and had lost interest in life. He was receiving a long-acting coronary vasodilator, a barbiturate and nitroglycerin when required. He had also taken several tranquilizers but they had been recently discontinued. He was started on Phenelzine 15 mg. three times a day. Within several weeks tension and anxiety were notably decreased and he had begun to make plans for renewed social and recreational activities. Later it became apparent that the frequency of his anginal attacks had been lowered by about 50% and that the pain was significantly lessened. Since Phenelzine was started, no anginal attacks have been precipitated by walking and nitroglycerin requirements have been greatly reduced. Due to the beneficial effect of Phenelzine on his angina pectoris, the maintenance dose of Phenelzine has remained 15 mg. two times a day.

SUMMARY AND CONCLUSIONS

Two hundred patients, seen in a general medical practice, were included in the clinical investigation of Phenelzine for a minimum period of two months. Each patient exhibited a variety of symptoms associated with psychoneurotic disorders.

Ninety-six (48%) had no organic disease to account for their symptoms. One hundred and four patients (52%) did have a proven organic disease, but in all cases, the degree and number of their complaints far outweighed the severity of the organic disease present. All have shown little or no improve-

ment following previous therapy. Eighty-seven per cent responded favorably to Phenelzine. Excellent (49%); Good (25%); Fair (13%). Decrease in apathy, depression and tension was particularly noticeable. The beneficial effects of Phenelzine became apparent within two or three days with maximum improvement invariably occurring in less than one month. Four of the five patients with angina had a significant decrease in both frequency of attacks and severity of pain. No serious side effects were observed and no incompatibility with amphetamines or any antihypertensive drugs was apparent.

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Multiple Pregnancy

By using the machine ordinarily used to measure brain waves, doctors now can detect tiny heart beats in the womb and tell an expectant mother whether she will bear a single child, twins, or triplets. The diagnosis can be made with 100 per cent accuracy between the fifth and seventh months of pregnancy.

Drs. C. A. Novotny, W. K. Hass, and D. A. Callagan of the U.S. Navy Medical Corps reported this finding in the October 17th *Journal of the American Medical Association*. They conducted electroencephalograph tests on 295 women at the U.S. Naval Hospital, Portsmouth, Va.

Electrodes of the electroencephalograph are pasted to expectant mother's bodies, permitting a systematic search for fetal heart beats. The machine picks up the electrical impulses from the fetal heart and records them on a graph. The number of fetuses is indicated by slightly different heart beats. Three hundred and twenty-one tracings were obtained from the 295 patients by this method. In a vast majority of case studies it also was possible to support the occurrence of fetal death.

Tracings were taken at random between the 11th and 40th week of pregnancy. The 20th through the 27th week was the most favorable period, and 100 per cent accuracy was possible when diagnosing twins or triplets during this period. In all diagnoses during the 20th through 27th week, a 90 per cent degree of accuracy was obtained.

In all cases, between the 11th and 40th week of pregnancy an 81 per cent degree of accuracy of diagnosis was obtained.

The earliest positive diagnosis of twins was made at 16 weeks. An accurate diagnosis of triplets was easily made at 20 weeks. An x-ray made of the same patient was still inconclusive for triplets four weeks later.

Their investigation was prompted by a desire for early diagnosis due to complications of multiple pregnancies; by concern about irradiation hazards of x-ray diagnosis, and by the increasing availability and efficiency of the electroencephalograph.

One Year's Experience in a Cytology Laboratory

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ON AUGUST 1, 1958, the Cytology Laboratory at the Medical College of Virginia obtained the services of a fully trained cyto-technician, skilled in the screening of Papanicolaou smears. Since that date, clinicians have been encouraged to utilize to the fullest extent the services of the Cytology Laboratory. Both ward and clinic patients contributed material which consisted principally of vaginal and cervical smears, sputa, and body fluid exudates. At the end of one year 3897 smears were screened, and the subdivided breakdown of this material can be seen in Table I.

TABLE I

Gynecologic material	3021
Sputa	515
Exudates	212
Miscellaneous	149
Total smears	3897

As we were particularly interested in the results obtained with screening routine gynecologic smears, only these will be further analyzed. Our procedure in the clinics is to obtain a cervical smear on all women over the age of 20 regardless of the patient's complaint. The suggested method of preparation is to insert a pre-moistened, cotton-tipped applicator into the cervical os after exposure of the cervix by means of a non-lubricated speculum. The applicator is rotated in circular fashion and then evenly spread over a clean slide. The slide, before allowing it to dry, is immediately immersed in 95% alcohol.

The results of the 3021 gynecologic smears are tabulated in Table II. Smears which were deemed

TABLE II

(Gynecologic Material Only)

Positive smears	22
Confirmed by biopsy	17
Unconfirmed	4
False positive	1

suspicious or inconclusive were eliminated from the tabulation, in order that no bias as to accuracy would arise from the final biopsy results. Only positive results were therefore evaluated, and a total of 22

smears were so diagnosed. This represents a percentage positive rate of 0.7%.

Confirmation by biopsy of these 22 cases was obtained in 17 patients. There was one false positive case, an error rate of 4.9%. In order to adjudge the final result as a false positive, the following criteria must be met: The patient should have at least a cold knife, wide conization of the cervix, and sufficient microscopic sections must be made to thoroughly eliminate the presence of any neoplastic cells. As can be seen from Table II, four patients were unevaluated as to the presence or absence of cancer of the cervix. Three have had no cervical biopsies, one patient having died before biopsy could be obtained. One patient had only a "4-point" biopsy which is thought to be insufficient to completely rule out the presence of tumor.

In order to further evaluate the usefulness of the Papanicolaou smear it was thought necessary to study the records of the confirmed 17 cases. Since patients with lesions requiring biopsy in any case may have been included in these 17 positive smears, it was necessary to review the physical findings of each patient. Analysis of these findings revealed that nine women had clinically detectable cervical lesions demanding biopsies. A smear made from these cervixes would only have corroborated the diagnosis of cancer, and cannot therefore be considered as leading to the early diagnosis of malignancy. The other eight cases with one exception had no demonstrable suspicious findings upon inspection of the cervix, and would not have been ordinarily biopsied. These women were truly asymptomatic, and it can be stated with certainty that the Papanicolaou smear served to pick up a not otherwise detectable case of cervical cancer. The one exception was a recurrent epithelioma of the cervix following radiation therapy. A biopsy of an ulcerative lesion in the vagina was negative, but the cervical smear was positive.

In re-evaluating the cancer detection rate one must subtract the four unconfirmed cases from the total number of smears. In addition the nine clinically positive cases must likewise be eliminated. This leaves a total of 3008 smears of which eight were

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found to be positive. The percentage pick-up rate is therefore 0.26%.

A 0.26% rate of positive smears may seem insignificant when it is realized that considerable effort and expense is expended in a screening program involving the female population. To the individual patient, however, the finding of unsuspected cancer is highly momentous. If one disregards the case of recurrent cervical epithelioma, seven women remain who may ultimately have had an incurable lesion. This, admittedly, is conjectural since only one patient had invasive epithelioma of the cervix as proven by biopsy.

It is not yet definitely established what percentage of patients with in situ epitheliomas evolve into frankly invasive cancer. Undoubtedly some lesions may regress, but those who have had the courage to observe intra-epithelial lesions find the invasive

rate in the vicinity of 25% when follow-up studies have been carried out for a minimum of five years.¹

The authors therefore conclude that routine cervical smears of all women over 20 years of age are definitely worthwhile. Though the percentage rate of positive smears may be small, the method is highly accurate as proven by subsequent biopsies. If diagnosis of cervical epithelioma can be made in the pre-invasive stage, the cure rate of this dreaded disease should be close to 100%, and few women if any need die of malignancy of the cervix.

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Salk Vaccine Reactions

Reported reactions to Salk polio vaccine thus far are so low as to make it unique among immunizing agents, according to Dr. Charles N. Christensen, Indianapolis.

Writing in the October 17th Journal of the American Medical Association, Dr. Christensen, medical division of Lilly Research Laboratories, said there have been only 284 reaction complaints in connection with 184,000,000 doses of Eli Lilly and Company manufactured vaccine. Of these, only 146 could be called possibly significant—complaint rate of 1 per 1,200,000 doses.

One hundred thirty-eight complaints were of burning or stinging pain on injection and were regarded as less significant.

In six instances a clinical picture resembling polio was recorded. Weakness in the extremities not diag-

nosed as polio was reported three times. In two patients it was transient. In the third case, an adult developed weakness in his left leg after a second injection and more severe weakness after a third injection.

Dr. Christensen stated that evaluation of polio possibly caused by the Salk vaccine is difficult, since some of the millions of persons immunized almost certainly were infected at the time of vaccination—or they acquired infection soon after receiving the vaccine.

He concluded, "It seems likely that cases of poliomyelitis which occurred after injections of the vaccine were coincidental to its use."

Nine cases of encephalitis were reported. In none of these were laboratory data available to identify the cause of the disease, according to the article.

Epidemics and Therapy with Simples in the Early American Colony at Jamestown, Virginia

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THE COLONIZATION at Jamestown was inspired by patriotism, piety and profit. The dawn of a new day came when on May 13, 1607, a small group of colonists, numbering around a hundred and five landed on what they called an island (a misnomer because a marsh and not a stream separated the colony from the mainland) and named the place James City, later becoming Jamestown.

The three ships, the Sarah Constant, the Godspeed, and the Discovery, commanded by Captain Christopher Newport were sent out by the London Company of England which gave them the right to settle land in that part of the American coast known as Virginia.

The colonists could not have settled at a worse place even if they had purposely tried. The saga of the first years is very depressing and dreary. Ships bringing new immigrants and supplies came at intervals, but the struggle against disease, starvation and Indians seemed unending. The days were dark, unsettled and full of vicissitudes. Captain John Smith, whose great abilities made him invaluable to the colonists, swung an ax and taught soft-handed noblemen that to eat, one must labor.

Thin soil, fevers, fires, famine and hostile Indians stalled but did not stop the group of colonists. The English did not expect diseases would ravage the colonists or that epidemics would be rampant. They were thinking more about wounds and such injuries; consequently a physician was not included among the first immigrants. Two "chirurgeons," Will Wilkinson and Thomas Wootton were considered adequate for the colony and during the first 8 months comprised the entire medical staff. Though surgeons were then connected with barbers, there appears nowhere in Virginia records that they were "barber-surgeons".

Usually, physicians came from better families and had attained a higher degree of medical education. Dr. Walter Russell was the first physician to come to the colony at Jamestown and Dr. Lawrence

Bohun who came in 1610 with Lord Delaware was second. Due to sickness abounding and a dwindling medical supply, Dr. Bohun experimented with various plants which he used successfully in epidemics of diarrheas and malignant fevers. In the early years at Jamestown before 1618, one thousand and one hundred out of the one thousand and seven hundred immigrants perished. Sixty died the first summer, twenty went the second, and the third summer, seventeen. In 1610 there were only sixty settlers left after three hundred and thirty-eight deaths. Six hundred and sixty-five persons died between 1610 and 1618. After 1618 the incoming settlers increased in number.

The following number of immigrants arrived according to Dr. Wyndham Blanton:

<i>Year</i>	<i>Immigrants</i>
1618	1,700
1618-19	840
1619-24	4,749
1624-25	260
<hr/>	
Total	7,549

He further states that in February 1625, only one thousand and ninety-five remained from the seven thousand five hundred and forty-nine. From 1635 to 1649 the number rose to fifteen thousand and 1662, there were forty thousand. By 1681 there were fifty six thousand and by the end of the century between sixty thousand and seventy five thousand.

The improved health conditions and the "seasoning period", which newcomers survived, increased the population. The term "seasoning period" was used rather loosely at times. Most of the lately arrived had for various and sundry reasons, "fluxes, fevers, and the bellyache". Due to conditions on ships, diseases and lack of food, unsanitary living conditions, hard work in the sun, to which they were unaccustomed and intemperance, people suffered what was called the "seasoning period" which consisted of fever, dysentery and other common ail-

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ments of that era. If they survived, they were seasoned to resist other illnesses and hardships.

The persons migrating to Virginia encountered diseases of an epidemic nature on shipboard before putting a foot on Virginia soil. The slowly sailing crowded ships were a means of bringing disease and epidemics into Virginia. Since the colonists came from epidemic centers in England and were undernourished aboard ship, these conditions favored the development of food deficiency diseases.

Because of the epidemics and outbreaks of disease, there was practically no growth in population before 1630. Among those listed are: beriberi, scurvy, typhoid, dysentery, plague, yellow fever, malaria, influenza, pneumonia, smallpox, and measles.

"Percy, cataloguing the mortality at Jamestown in 1607, heads the list of 'cruel diseases' with 'Swellings.' His reference probably was to beriberi, sometimes called epidemic dropsy, the twin sister of those other accompaniments of insufficient and unbalanced rations: scurvy and starvation."¹

George Percy was the youngest of eight sons of the eighth Earl of Northumberland. He was quite a scholar and was president of the Virginia Council for three terms.

Indians were noticed to have had large and swollen bellies which undoubtedly pointed to beriberi, and the settlers were told to avoid mingling.

Due to the fact that the colonists were allotted only half a pint of wheat and barley boiled with water, they suffered because of the lack of Vitamin B, since no eggs, vegetables and fruits were available. The barley and wheat had been aboard the ships for about twenty six weeks, naturally with no preservatives. Worms were abundant and rats did their share of damage.

"Beriberi is often characterized by swelling—the so-called dropsical form. Fluid under the skin and in the body cavities produces a general anasarca and the victim presents a typical swelling. There are also the dry forms, and these might well be portrayed in the 'anatomies' which were described in the streets of Jamestown during this calamitous year, 1607. Castellani calls attention to the fact that acute pernicious types of beriberi occur, 'when the person, without previous illness, suddenly dies.' Some of the early planters are said to have died suddenly and without obvious cause, and this is doubtless the explanation."²

Scurvy has been recognized as a disease for a

much longer period of time than beriberi and it has affected sea-faring individuals. Vasco da Gama, on his voyage to the Cape of Good Hope, had one hundred of his one hundred and fifty-six men succumb to scurvy. Many colonists had scurvy during the trip over, and again after settling in Virginia. "In 1610 Lord Delaware complained of 'the disease called scurvy; which though in others it might be a sickness of slothfulness yet was in me an effect of weaknesse, which never left me, till I was upon the point to leave the world.' On advice of his physician, Dr. Bohun, he sought a cure in the West Indies, where 'I found help for my health and my sicknesse assuaged, by means of fresh dyet and especially of Oranges and Lemonds, an undoubted remedy and medicine for that disease'."³

Scurvy was considered fatal for the most part and was thought to be the result of idleness. Characteristics of the disease are pain in the joints, lack of interest, lassitude, listlessness and languor. In York and Surry Counties, reports were made concerning deaths from scurvy. The symptoms which usually develop slowly include also anemia, flaccidity of muscles and sometimes a yellowish pallor. When the disease is advanced, hemorrhage occurs internally or externally. The disease itself follows a deficiency of fresh vegetables and fruits, an excess of salt fish or pork, and the use of tainted food or an insufficient amount of food.

The principal effect of beriberi is upon the nervous system and children at birth usually have beriberi when the mother has the disease.

The years of hardship and lack of proper rations conducive to food deficiency diseases contributed to a controversial etiology of diseases since swellings were predominate before the actual disease appeared.

Few contemporary sources of Seventeenth Century Virginia history refer to a disease which might have been malaria. Malaria is not a contagious disease; however, there were mosquitoes in great abundance due to the low, marshy, stagnant and swampy land surrounding the countryside. Reports were made that the mosquito bite was sharper than the sting of the Indian arrow as anyone who has experienced this phenomenon believes even now.

Malaria (ague) is generally accompanied by chills, and, although several references were made to fevers and ague, only five or six authentic cases have been recorded.

"Lord Delaware writes in 1610: 'presently after my arrival in Jamestowne, I was welcomed by a

hot and violent ague, which held mee a time, till by the advice of my Physition, Doctor Lawrence Bohun, (by blood letting), I was recovered.' Strachey declared in 1610 that there were 'many diseases and sicknesses which have happened to our people, who are indeede strangely afflicted with Fluxes and Agues; and every particular season . . . hath his particular infirmities too.' In the absence of the therapeutic test by quinine, which did not come into the colony before the middle of the century, and of modern blood examinations, which were not in practise until 1890, the term 'ague' is vague and might cover a multitude of febrile diseases."⁴

The conclusion manifest is that malaria was not one of the deadly diseases of the colonists. Typhoid was considered to be more lethal than malaria since there is an immunity after an attack of typhoid, but there is a yearly recurrence of malaria.

There were three times during the Seventeenth Century in Virginia that epidemics in the colder months had a high mortality rate. Though contemporary writers do not give a positive opinion, the epidemics were thought to be of the respiratory types: influenza, pneumonia, and pleurisy, which at times have the tendency to reach epidemic proportions. Then, through the ages and even to the present day, influenza rages at its peak during the months of January, February and March. Historical records of Virginia do not show that mortality was comparable to the New England outbreaks which wiped out entire families and almost towns.

The evidence that epidemics of plague were disastrous is certainly conclusive especially since rat infested ships could have carried the disease from London where plague was known to be epidemic. That plague as well as yellow fever and malaria were the principal diseases of the epidemics is supported by the facts and the ideas of that day which have been handed down to us. Reports indicated that four ships of the London Company's fleet were infested in 1609 and a number of passengers died at sea because of plague. Undoubtedly the Virginia colonists were afraid of the plague because a severe penalty was imposed on any one for throwing soap suds in the street. This idea which was brought over from London stated that anyone using soap or anything connected with it in any way would eventually die of the plague. Later on there is a reference to a disease called the plague from which many people died. But, the symptoms justified other diseases: chills, high fever, headache, pain, swelling, and nausea, among others.

Smallpox was first recorded in the West Indies in 1507. The greatest endemic center of smallpox was Africa, and consequently after slaves had been imported, there was an outbreak of the disease. There are few reports of early epidemics recorded in this country, but since the disease was so common in England, practically every one of the colonists was affected in some way, due to the lack of vaccination.

Children are more susceptible to smallpox than adults but there were only a few of them in the colony. This fact plus the number of immunized adults were the reasons for the low incidence of smallpox in the early years of the colony.

The first epidemic occurred in 1667 when a seafaring man arrived at Accomac on the Eastern Shore. He escaped from his isolation and caused an epidemic by spreading the disease to two Indian tribes. There was a high rate of mortality. The "Colonel and Commander of Northampton County", who was acting in place of a health officer, issued the following proclamation to all who were affected with smallpox to allow no one: "to go forth their doors until their full cleansing, that is to say, thirtie dayes after their receiving the sd smallpox, least the sd disease shoulde spreade by infection like the plague of leprosy . . . such as shall no-things notice of the premonition and charge, but beast like shall p'sume to act and doe contrarily, may expect to be severely punished according to the Statute of King James in such cast provided for their contempt herein; God save the King".⁵

In 1696 smallpox was raging so at Jamestown that the Assembly asked for a recess, due to the fact that such a large crowd came to Jamestown during the session of the House and was exposed to the highly contagious and nearly fatal disease.

The first medical book published in America dealt with the disease of smallpox. It was written by Reverend Thomas Thatcher, M.D., and was entitled "Brief Rule to Guide the Common People of New England how to order themselves in the Smallpox or Measles".

Measles and smallpox were often confused. The epidemic which afflicted the colony with several deaths around 1693 may have been smallpox as well as measles. In these days without vaccination smallpox was a common disease.

In 1686 William Byrd wrote to a friend that some Negroes and his little daughter had the smallpox. Several deaths occurred, but for the most part there were not too many fatalities in his circum-

stances. It is interesting to note that smallpox was separated from measles in the Ninth Century.

Dr. Sydenham in the Seventeenth Century in England recognized scarlet fever and wrote extensively on fevers. It is understandable that there was much discussion and difference in opinion before the last decade of the Nineteenth Century with regard to fevers. Actually, a number of the epidemic diseases were accompanied by fever. Many writers who designated the diseases by the outstanding symptoms ("swellings" for beriberi, and the "bloody flux" for dysentery) were familiar with the intermittent fever of malaria. The conclusion was reached that the "burning fevers" of Jamestown in 1607 were not necessarily measles, scarlet fever or smallpox, but of typhoid which was due to individual carriers aboard the vessels and the conditions surrounding them. A high death rate mounted among the early settlers due to "fever". The "fevers" also included yellow fever which is a disease of the tropics and subtropics.

Yellow fever came to Virginia in the bodies of imported mosquitoes. It is believed that calenture and yellow fever are synonymous; calenture has been described as a fever attacking sailors in the tropics affecting them with such delusions that they plunged overboard. Since the voyage from the tropics occupied about two months there was much discussion as to whether patients ill with this disease aboard ship could carry it to the colonies. The decision was made that shipboard cases could not spread this disease after landing. However open buckets in which stagnant water and refuse collected could have been the means of spreading the infection because they were a fertile breeding ground for mosquitoes.

The "Bloody Flux" was a term used in England referring to dysentery. An infectious disease for the colonists might be also associated with food poisoning, which would be attributed to the heat of the summer and food without preservatives. The intestinal disorders producing fevers, diarrhea, cramps and blood were prevalent and rather common summer complaints among the early colonists.

Two important factors in modern recognition of the prevention of epidemics are quarantine and sanitation embracing all matters of hygienic care.

Seventeenth Century methods may have seemed crude, but there did exist wholehearted attempts to prevent disease. The early colonists though unable to combat the situation in some instances did recognize the need and were cognizant of the surround-

ing causes. Some of these were poor food, crowded quarters, damp and marshy lands, infested ships, and poor drinking water, and the need for quarantine against contagion. Lord Delaware had the earliest record of quarantine put into effect at Kecoughtan.

The epidemic of 1667 of Accomac on the Eastern Shore may have been averted if quarantine imposed upon the sailor who had smallpox had not been broken since he spread the contagion by his contact with the Indian tribes.

The law made by Sir Thomas Gates in 1610, later enforced and including more restrictions by Lord Delaware in 1611, takes into account the stagnant water in the streets, the idea of keeping the drinking water pure, and the placing of latrines a distance from the wells, and other hygienic conditions surrounding living quarters. Instructions were given to raise the bedstead three feet from the ground so the dampness would not affect the health.

Military personnel were made aware of some of the necessary duties assigned to them. They were to attend to the sick and wounded, see that they were well-cared for and kept in clean abodes, hygienic in dress and other conditions, and provided with such remedies as were available.

Due to the epidemics and mortality, there was no increase in population to speak of before 1630. Among the decimating diseases were famine, beriberi, scurvy, typhoid and dysentery and probably plague, yellow fever and malaria. But, after 1630 there was a gradual increase in population. Epidemic diseases which later took their toll of the colonists were pneumonia, influenza, and, maybe, pleurisy, lead poisoning, smallpox and measles.

Migration up the river began and a few small towns developed. The climate was suitable for growing corn, beans, tobacco and other crops which the Indians had proved previously. The Indians became less hostile and the children who were born, lived.

From these roots surrounded by dangers, hardships of starvation, epidemic diseases, hostile Indians and other disintegrating factors, a heritage was born.

Dr. Lawrence Bohun, the second physician who was brought to the colonies, was a highly educated medical man who it was said received his training at Leyden and held a degree in medicine. When Lord Delaware (Thomas West) became ill with what might be considered the first reported case of scurvy in American history, Dr. Bohun inter-

rupted his experiments to attend to the Governor. Dr. Bohun, who is considered to be the first research scientist on these shores, studied the properties of various plants and other resources. He sailed with Lord Delaware bound for the West Indies in March of 1611. Due to irregular winds, they landed in the Azores, and Lord Delaware's health became much improved because the citrus fruit proved to be a remedy for scurvy. Dr. Bohun probably never came to Virginia.

Later, Dr. John Woodall, the medical adviser to Sir Thomas Smith, considered to be a foremost and famous English Surgeon, published his "Surgeon's Mate", the earliest book in which lemon juice was prescribed for scurvy.

The fact was firmly established in 1928 by Szent-Gyorgi that the Vitamin C (ascorbic acid) found in citrus fruits would cure scurvy.

Previously, Dr. Bohun, finding very few medical supplies when he arrived, began to investigate the medicinal properties of plants native to Virginia to combat the sicknesses that were so dominant in the colonies. Some of these were sassafras, rhubarb and gums from various trees. Through his inquisitive mind he found the gum of white poplar and another tree resembling turpentine. It was said that it would make a good balsam and the result was that it would "heale any green wound". Besides the plants and gums from the trees, he also experimented with a white clay which he called Terra Alba Virginensis that was described as "both aromatical and cordiall, and diapharetick" and was recommended in pestilent and malignant fevers."⁶

One of the earliest plants used for medicinal purposes popular in the settlement and also in the Mother Country, having been shipped over in great quantities, was sassafras. The roots became an important medicinal aid and was thought to be a cure for many diseases. It was sold in England under the name of Saloop. Sassafras, a member of the laurel family (to which camphor also belongs) is also called the "ague tree", as a decoction of the bark and roots were supposed to have cured that disease. The bark of the twigs and the pith, rich in mucilage, were used in diseases of the eye and for dysentery. The first letter ever written by the Virginia Council* to the London Company expounds the great abundance of sassafras in the colonies. A pound of sassafras was worth three shillings in England.

Snake root (serpentaria) also known as snake-

weed, pelican-flower, sangrel, sangree-root, noted for the stimulant, diaphoretic and tonic values was greatly advocated in the treatment of typhoid and digestive disorders.

Dr. Wyndham B. Blanton, the eminent authority on the history of medicine, states that "Mr. Thomas Glover, who is described as 'an ingenious chirurgeon that hath lived some years in that country,' sent an account of Virginia to the Royal Society in 1676. He notes that 'here groweth the Radex Serpentaria Nigra, which was so much used in the last great pestilence, that the price of it advanced from ten shillings to three pounds sterling a pound.' Beverley, years later wrote, 'There is the snake root so much admired in England as a cordial and being a great antidote in all pestilent disorders', and 'there's the rattlesnake root, to which no remedy was ever yet found comparable; for it effectually cures the bite of a rattlesnake which sometime has been mortal in two minutes. If this medicine be early applied, it presently removes the infection, and in two or three hours restores the patient to as perfect health as if he had never been hurt.'"⁷

Black snakeroot (Black Cohosh-Cimicifuga Racemosa) was regarded by the Indians as a valuable medicinal plant used for the treatment of snake bites and a popular remedy among women. From these meager beginnings, it is now used as an alterative, emmenagogue and sedative.

Thomas Glover also named some other popular simples, such as: dittany, turbith, mechoacon and the fever and ague root. Dittany roots when distilled caused profuse sweating. Fever and ague roots acted as a mild cathartic and emetic.

Senna (Cassia Marylandica) was used widely as a purgative. This is a nauseous, bitter plant that grew wild, around eight feet high with obtuse, oblong leaflets. Rhubarb, tobacco and sarsaparilla, wild cherry bark and ipecac (emetic) were enthusiastically used and advocated.

As in the incidence of many native medicinal plants the early settlers in America learned the virtues of Golden Seal (*Hydrastis Canadensis*) through the Indians who used the root as a medicine, dye for clothing and stain for their faces. Golden Seal is known by several names, most of them bearing the reference to the color of the root: yellow root, yellow puccoon, orange root, Indian dye, curcuma, wild curcuma, wild tumeric, Indian tumeric, jaundice root and yellow eye, eyebalm, eye root and ground raspberry. The rhizome or rootlets were used in medicine. The root itself was chewed

*The Council in Virginia was a governing body composed of several members.

for relief of sore mouth. The juice was, and is still used as a diuretic, stimulant and escharotic, the powder for blistering, and the infusion for the dropsy. Another use of puccoon was for digestive disorder and affections of the mucous membranes.

The Jamestown weed or Jimson weed (*Datura Stramonium*) was first used as a sedative and antispasmodic in smaller doses, but in larger doses, as a narcotic and was poisonous. Indians had first used the Jimson weed as a narcotic.

Tobacco was described to have healthful qualities "‘which purgeth superfluous fleame and other grosse humors, openeth all the pores & passages of the body: by which meanes the use thereof, not only preserveth the body from obstructions; but also if any be, so that they have not bene of too long continuance, in short time breaketh them: know not many greivous diseases wherewithall wee in England are oftentime afflicted.’ Smokers swore it was an ‘antidote to all poisons; that it expelled rheums, sour humours, and obstruction of all kinds, and healed wounds better than St. John’s wort. Some doctors were of opinion it would heal gout and the ague, neutralize the effects of drunkenness and remove weariness and hunger’".⁸

The plants mentioned are the ones most frequently used in treating diseases and epidemics. Medicines given by the doctors in the early colonies was plain and compounded at home. In the earliest years of the century there were several apothecaries, but by 1621, there was a great scarcity, and it was during the Eighteenth Century that drug stores began to

grow. The colonial doctor had a great variety in his treatment of diseases since almost all therapy was purely symptomatic.

The first English colony in America on the shores of Virginia survived in spite of the many years of hardship, diseases and other influences. Early colonial medicine was neither creative nor epoch-making, but courage, independence of action and resourcefulness were born out of real necessity and made meager beginnings grow into a great tradition.

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10. Blanton, Wyndham B.: *Medicine in Virginia in the Seventeenth Century*. Richmond, Virginia. William Byrd Press, 1930. 337 p.
11. Bradley, Chester D.: *Medical Practice in the Jamestown Colony*. *Virginia M. Monthly* 84: 360-363, July 1957.
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—————
Petersburg General Hospital
Petersburg, Virginia

Health Insurance Coverage

Nine out of every ten persons who have health insurance coverage for hospital care also have protection against the cost of surgery, the Health Insurance Institute has reported.

In addition, six out of every ten persons with hospital expense insurance now have regular medical expense insurance, which helps pay for doctor visits for non-surgical care.

In the past decade there has been a sharp rise in the proportion of persons who have improved their health insurance protection by covering themselves against more than one type of medical expense.

In 1948, some 61 million persons had hospital expense insurance. Of this number, 34 million, or 55.8%, also had surgical expenses insurance and 13 million, or 21.1% had regular medical expense insurance.

Ten years later, at the end of 1958, the number of Americans with hospital expense insurance had more than doubled to reach 123 million. Of this sum, 111 million, or 90.6%, also were covered against the costs of surgery, and 75 million, or 61.3%, were protected against regular medical expenses.

Pre-Paid Medical Care

Edited by

RICHARD J. ACKART, M.D.

Blue Shield Plan Directors

Virginia Medical Service Association, the Blue Shield Plan headquartered in Richmond, each year holds its annual meeting of corporate members (Participating Physicians) at the time and place of the annual meeting of The Medical Society of Virginia. This past October in Roanoke the VMSA members elected five new Directors, and the Medical Society appointed three new Directors of the Blue Shield Board. Later during that month the reconstituted Board held its organizational meeting and elected as Officers of the Association:

President, Dr. William Grossman of Petersburg
Vice-President, Dr. Ernest G. Scott of Lynchburg
Secretary-Treasurer, Dr. McKelden Smith of Staunton

Chairman of the Board, Dr. D. Edward Watkins of Waynesboro

Specialty representation on the new Board can be summarized as follows: Internal Medicine, 6; Surgery, 4; General Practice, 4; one physician each for ALR, Anesthesiology, Gynecology, OALR, Orthopedics, Pathology, Pediatrics, Psychiatry, Radiology, and Urology; and eleven persons representing the subscribing public. The seven-man Executive Committee of the Board includes three internists, two surgeons, one general practitioner, and one pediatrician.

Of the twenty-four physicians on the Board, five are officers of The Medical Society of Virginia.

Concerning geographic representation of the medical profession, Richmond has six physician-Directors; Charlottesville and Norfolk, three each; Newport News and Petersburg, two each; and eight other localities, one each.

A listing of the Directors of Virginia Medical Service Association is presented below.

* * * * *

*Walter P. Adams, M.D., Internal Medicine, Norfolk.

Mr. H. A. Brower, Personnel Superintendent, E. I. du Pont de Nemours & Co., Waynesboro

*Russell V. Buxton, M.D., General Surgery, Newport News.

F. Ashton Carmines, M.D., Orthopedic Surgery, Newport News.

George J. Carroll, M.D., Pathology, Suffolk.

George Cooper, Jr., M.D., Radiology, Charlottesville.

Mr. R. B. Crawford, President, Kilkare Laundry, Farmville.

Mr. John E. Damerel, Director of Personnel, City of Richmond, Richmond.

Frank D. Daniel, M.D., General Practice, Charlottesville.

T. Dewey Davis, M.D., Internal Medicine, Richmond.

William Grossman, M.D., Pediatrics, Petersburg.

*Randolph H. Hoge, M.D., Gynecology, Richmond.

Guy W. Horsley, M.D., General Surgery, Richmond.

Mr. M. A. Hubbard, Executive Secretary, Virginia Farm Bureau Federation, Richmond.

Mr. William H. King, Attorney, Richmond.

Mr. William Meacham, Associate Editor, Norfolk-Virginia Pilot, Norfolk.

*Cary N. Moon, Jr., M.D., Otolaryngology, Charlottesville.

*Claude A. Nunnally, M.D., Internal Medicine, Fredericksburg.

*Wilkins J. Ozlin, M.D., Urology, South Hill.

H. Grant Preston, M.D., Ophthalmology and Otolaryngology, Harrisonburg.

*Benjamin W. Rawles, Jr., M.D., General Surgery, Richmond.

Mr. George W. Robinson, Tabb, Brockenbrough & Ragland, Richmond.

*William C. Salley, M.D., Internal Medicine, Norfolk.

*John R. Saunders, M.D., Psychiatry, Richmond.

Ernest G. Scott, M.D., Internal Medicine, Lynchburg.

*Directors selected by The Medical Society of Virginia.

McKelden Smith, M.D., Internal Medicine, Staunton.

Harry B. Taylor, Jr., M.D., General Practice, Norfolk.

Mr. E. Hudson Titmus, Jr., President, Titmus Optical Company, Petersburg.

Mrs. Ben Wailes, Dean of Women, Sweet Briar College, Sweet Briar.

Thomas Walker, M.D., Anesthesiology, Richmond.

Mr. Herbert G. Wall, Procter & Gamble (retired), Norfolk.

*D. Edward Watkins, M.D., General Surgery, Waynesboro.

Mr. Morris W. Whitaker, Secretary, Allen-Morrison Sign Company, Lynchburg.

*Fletcher J. Wright, Jr., M.D., General Practice, Petersburg.

*Julian H. Yeatman, M.D., General Practice, Fork Union.

*Directors selected by The Medical Society of Virginia.

"Cluster Headache"

Repeated daily attacks of migraine headaches are actually a specific type of migraine—"cluster headache."

Also called "Harris's migraine" after the man who first systematically described the condition, "cluster headache" occurs after weeks of freedom from pain. A bout usually lasts for weeks, with the patient having at least one attack daily.

Other characteristics of the condition, as described in an editorial in the October 31st Journal of the American Medical Association, are:

—The patient is more often a man than a woman (between two and four to one) and between the ages of 30 and 50 years, although first attacks have been reported in patients as young as 11 and as old as 59.

—The attacks of pain are intolerable, but their duration is relatively short—minutes to an hour. The constant boring or throbbing pain is at the outer side of the eye. It may spread to the remainder of the cheek, the forehead, the scalp and occasionally, the neck.

—The pain usually affects the same side repeatedly, in fact, the same spot. Most attacks occur on the right side.

—In contrast to the more usual migraine where

the patient prefers to lie down and pull the covers over his head, with cluster headaches, he cannot recline and usually must pace. There seems to be a relationship between the pain and the muscular activity that it causes.

—The attacks tend to occur at the same time of day or night, most frequently between 2 and 3 a.m.

—The bouts recur irregularly and then may cease after occurring for years.

—Most patients have previously had the more classic form of migraine, which is replaced by the Harris form.

Preventive treatment consists of regular injections of ergotamine tartrate, a drug commonly used in oral form for the treatment of regular migraine. The patient is taught to give himself the injections daily for five days in each week. The two free days allow the patient to determine whether the bout of pain has ceased.

Another interesting fact about this "variant of the galaxy that is migraine" is that the patient cannot tolerate alcoholic drinks during a bout, presumably because of the alcohol's dilating effect on the blood vessels of the head.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

The First Rabid Bat Discovered in Virginia

The existence of rabies infection in bats in the United States was unknown until June 1953, when the first reported laboratory diagnosis was made by the Tampa regional laboratory of the Florida State Board of Health. Negri bodies were found to be present on microscopic examination of a bat brain in routine diagnostic procedures. Rabies infection was confirmed by inoculation of mice with the bat brain. The virus isolated by the Florida Board of Health was sent to the Virus and Rickettsia Laboratory of the Public Health Service Communicable Disease Center, Atlanta, where it was confirmed as rabies virus by neutralization and by complement fixation tests.

This led to the study of live free-living bats in Florida and a number of bats were collected from various sources for the purpose. The evidence obtained showed that rabies infection in Florida bats is well established and widely disseminated in the free-living species dispersed in nature.

Since that time bat rabies virus has been reported as having been isolated from insectivorous bats in quite a number of the states of the United States, from the east coast to the west and from the northern border to the southern, and the total now stands at twenty-two.

The first case of rabies in a human being in the United States which could unquestionably be attributed to the bite of a known rabid bat occurred in Butte County, California, in October 1958. There have been approximately seventy-five positively diagnosed cases of bat rabies in the United States which were reported as involved in the biting of human beings.

Bats are the only mammals with the power of true flight. They are now nearly worldwide in distribution. Their wings consist of the fingers of the hand greatly elongated to support the membranous wing surface. They navigate by means of echo location, which has been called radar and sonar, and they are enabled by this to readily avoid objects, even in total darkness. Most bats are insect eaters and

some have been estimated to consume from one-half to their full weight in insects in a day. They are helpful in holding down the insect population and in controlling an overabundance of them.

Prior to the recognition of the infection of bats with rabies, they were considered to present a public health problem from several stand points. Bat ectoparasites (ticks, mites, and fleas) may attack man, particularly when bats are infesting a house. Bats have been known to be associated with several communicable diseases which, with one or two exceptions, are not common in this country. Histoplasmosis, a systemic fungus disease of man, may be contracted by inhaling dusty bat manure containing *Histoplasma capsulatum*. The bats, themselves, do not transmit histoplasmosis but their dusty manure is a suitable medium for the development of airborne spore of the fungus. Certain fungus infections of the human skin are associated with bat caves and bats possibly serve as significant reservoirs of the fungi.

Since bat rabies was first reported and wide publicity was given to the fact that human infection with rabies can result from this source, a few bats have been sent to the Laboratory of the Virginia State Department of Health for examination for this disease. It was not until a short time ago that rabies was identified in one of these.

On Saturday, September 26, 1959, some boys in a residential section of Henrico County found a dead bat. One of them handled the bat rather freely. His well-informed mother on hearing of the episode, recovered the bat and kept it refrigerated until the following Monday, when she took it to the Laboratory of the State Department of Health for examination for rabies. Direct smears were made from the brain and were reported as being "Suspicious for Rabies" but a clear-cut diagnosis could not be made from that study. Mice were then inoculated, the mouse being highly susceptible to this virus, and eleven days later one of them died. Smears from this animal's brain were examined and Negri bodies were extensively demonstrated. Fortunately, the boy who had handled the bat had been started on anti-rabies treatment as soon as the first report was made that

the bat's brain was highly suspicious for rabies.

This leads to warnings to be cautious:

Animals found dead from unknown causes should not be handled with bare hands.

Never try to administer to what may appear to be a wounded or crippled bat. It would not be in the neighborhood of human beings in the day time if it were healthy and there is nothing you could do for it if it were crippled.

Inform your children of these dangers and advise them to adopt the policy of "hands off".

Protect your pet animals with anti-rabies vaccination and in doing so you protect yourself from possible exposure.

The possibility that bats can transmit rabies to man is present but the probability is not great. The bats we are exposed to are not carnivorous and do not like the presence of man. It is more probable that they may be a reservoir for maintaining rabies in wildlife. By the simple expediency of anti-rabies vaccination for dogs and other pets, we can protect them from infection from these sources and thereby prevent transmission to humans with whom they live in such intimate contact.

It is interesting to note that the West Virginia State Department of Health recently reported that the first case of bat rabies in that State was confirmed in August by animal inoculation tests. In that case a 7-year-old boy was bitten when he picked up a bat after it had fallen in a swimming pool. The boy was given anti-rabies treatment.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Oct. 1959	Oct. 1958	Jan.- Oct. 1959	Jan.- Oct. 1958
Brucellosis	7	1	27	17
Diphtheria	2	10	10	24
Hepatitis	69	22	414	243
Measles	37	123	14570	21480
Meningococcal Infections	6	7	73	77
Meningitis (Other)	69	33	366	232
Poliomyelitis	50	27	270	125
Rabies (In Animals)	21	6	150	227
Rocky Mountain Spotted Fever	4	0	37	32
Streptococcal Infections	371	367	7449	5869
Tularemia	0	0	16	28
Typhoid	10	4	24	38

Hypnosis Cures Hiccups

A single hypnotic suggestion successfully cured an eight-day case of hiccups in a man recovering from a heart attack, two Philadelphia doctors have reported. A serious complication of myocardial infarction, hiccups produce extreme exhaustion in the patient if they are prolonged, Drs. Gordon Bendersky and Martin Baren said.

A 55-year-old man developed hiccups 22 days after he had suffered a heart attack. After eight days of almost constant hiccupping, during which all the standard treatment methods were tried, the patient was given one hypnotic suggestion that the hiccups would disappear.

"This proved to be successful. Except for two hiccups which occurred several hours later, the hic-

cups failed to return. The remainder of his convalescence was uneventful," the doctors wrote in the September Archives of Internal Medicine, published by the American Medical Association.

No other case of successful termination of hiccups following a single hypnotic suggestion has been reported.

While the general use of hypnosis for eliminating psychosomatic manifestations cannot be endorsed and may be highly dangerous, the doctors believe the seriousness of the hiccups and the failure of all other methods warranted its use.

Dr. Bendersky is associated with the Hahnemann Medical College and Hospital and Dr. Baren with Children's Hospital, Philadelphia.

Toward an Understanding of Clinical Psychology

Psychologists are understandably concerned that their professional discipline be understood and accepted by others. Recent studies show that the psychologist is still regarded by many persons in the medical profession as a "mental tester".¹ It is true that one of the chief contributions which can be made by a clinical psychologist (and there are five or six other sub-specialties in the field such as industrial psychology, experimental psychology, social psychology, educational psychology, and military psychology) is the skill and special techniques which he can bring to the problem of diagnosis of emotional maladjustments and learning problems. But this should not lead to the neglect of several other areas in which some psychologists can provide distinct service, such as consultation, training, research, administration, and individual and group psychotherapy. These and other services, in addition to the diagnostic function, are being provided in the clinics and hospitals of the Department of Mental Hygiene and Hospitals by persons trained in the field of psychology.

A few illustrations might show some of the varied activities in which psychologists in this Department are presently engaged:

CONSULTATION

Community groups and social agencies have called upon psychologists for consultation regarding problems of juvenile delinquency, to assist with the formation of a local Family Service Society, and for other problems related to mental health. Schools use psychological consultation for case conferences, workshops for parents on child development, and for the recommendations they can give in the operation of special classes, sheltered workshops, and facilities for cerebral palsied children. Physicians interested in research have used psychological consultation to sharpen their hypotheses and plan their experimental design. Psychologists are coming to be

MILL, CYRIL R., Ph.D., *Psychological Service Director, Department of Mental Hygiene and Hospitals, Richmond, Virginia.*

Approved for publication by Commissioner, Dept. Mental Hygiene and Hospitals.

CYRIL R. MILL, Ph.D.

seen as a source of information and consultation by an increasing number of civic groups, and are serving on boards of many social agencies.

TRAINING AND EDUCATION

Many psychologists enjoy teaching and affiliate themselves with universities or extension programs wherever possible. Training others to a better understanding of emotional maladjustments and what to do about them is a part of many psychologists' daily job. They may be called upon to speak to a one-shot affair, as at a P.T.A. meeting, in a workshop lasting eight to ten hours spaced out over several weeks, or in a more traditional course covering a semester. Many types of students are receiving this training, including psychiatric aides, policemen, housewives, nurses, medical students, teachers, and lawyers and ministers. Several psychologists in Virginia are now trained to use some of the newer instructional methods of group dynamics which have proven to be more effective than the traditional lecture method.

RESEARCH

The current survey of research in mental health in the South which is being conducted by the Southern Regional Education Board has pointed up the strong role of psychologists in research. Out of a total response to the survey of 576 individuals in the southern states, 325 held the Ph.D. degree, as compared to 128 who held the M.D. Most of these Ph.D.'s are psychologists, although not all are clinical psychologists. In Virginia the last few years have seen an increase in research activity both in the number of projects completed and the total number of psychologists engaged in research. Projects are presently underway on several psychological tests of intelligence and personality, on factors related to reading problems and under-achievement, and on the effects of various drugs on perception, cognition, and intellectual functioning.

ADMINISTRATION

No one, these days, comes into the professional fields of mental health with specific training in administration. Yet everyone is aware of the de-

sirability of good administrative practices for organizing an efficient and happy unit. Very often physicians are burdened with administrative duties for which they are not prepared or which they do not enjoy. In some clinics either the psychologist or the psychiatric social worker is delegated many administrative duties to everyone's satisfaction. In hospitals the psychologists are also found serving on committees and taking some of the administrative burden which does not entail the making of medical decisions. More of this could be done, and medical administrators could well consider ways and means of utilizing the administrative potential that exists among their psychological staffs.

INDIVIDUAL AND GROUP PSYCHOTHERAPY

In some of Virginia's hospitals more patient-hours of psychotherapy are provided by psychologists than by the medically trained staff. Group psychotherapy is being offered to patients just before discharge, and to the aged with gratifying results. Group and individual psychotherapy with children in hospitals as well as play therapy is largely the result of interest of psychologists in this field.

In some of the mental health clinics, all members of the team engage in psychotherapy, with group psychotherapy making this service available to greater numbers of people.

DIAGNOSIS

The role of the psychologist in diagnosis should not be omitted in this discussion. The unique contribution made by the psychologist to an understanding of a case is through his use of tests. Usually, in clinical procedure, different facets of the patient's problems of adjustment are contributed by each member of the team. Different diagnostic recommendations occasionally are offered by each team member but this is a reflection on no one, arising as it does from the fact that varying aspects are focused upon through the social history, through the psychiatric interview or neurological examination, and the psychological examination. The discussion of these differences provides for stimulating staff meetings and a clear understanding of the case dynamics. The final diagnostic labelling is a psychiatric responsibility.

The practice of referring all cases for a psychological examination is disappearing. Such a "shot-gun" means of referral is wasteful of valuable time, and as referring sources gain an understanding of

the kinds of questions best answered by making a psychological referral, wiser referrals result.

Harlow and Salzman² suggest that a request for a psychological evaluation of personality functioning would be appropriate under the following circumstances:

1. For evaluating possible underlying pathology, e.g., the suspicion of what appears to be neurotic symptomatology masking a schizophrenic process.
2. For evaluating the relative strength of different pathological trends in a patient, e.g., whether a depression observed clinically is primary or incidental to other pathology also present clinically.
3. For obtaining information about a patient which may be unobtainable through interview, e.g., the "hyper-repressive" patient.
4. For investigating the etiology of a symptom, e.g., the meaning of a conversion reaction.
5. For evaluating the advisability of initiating, continuing, or terminating hospitalization, e.g., when there is a question concerning the possibility of further decompensation.
6. For planning a psychotherapeutic approach, e.g., for deciding between supportive or interpretive therapy, e.g., by alerting the therapist to the forms of resistance and defense likely to be employed.
7. For an evaluation of change as a result of the therapeutic process.

Appraisal of intellectual functioning is appropriate:

1. For making a differential diagnosis, e.g., for legally declaring a patient a mental defective.
2. For making a disposition of a case, e.g., whether a patient has the intellectual capacity to utilize certain types of psychotherapy.
3. For evaluating the relationship between a patient's current functioning to his potential abilities, e.g., when a person failing in school is felt to have the capacity to perform more adequately.
4. When there is a question of disturbed thought processes, e.g., when schizophrenia is suspected.
5. For evaluating impairment of, or deterioration in, ability to perform cognitive functions, e.g., when organic involvement is suspected.

It is probable that within the next ten years the American Psychological Association will set the Ph.D. degree as the minimum essential for psychology as a profession. In clinical psychology, the Ph.D. means at least three years of graduate study, plus a one-year internship, plus research training in the preparation of a doctoral dissertation. In the near future, the Commonwealth of Virginia

must review its standards for the employment of psychologists and adjust the pay scale to a level appropriate for psychologists who are fully trained.

Each year sees more effort by psychologists to improve the quality and quantity of their services. The first step toward this end in any local situation is to establish satisfactory role-relationships based upon understanding of the other fellow and his job. This seems elementary, but a recent study revealed that in some hospitals in Virginia, physicians new to the psychiatric setting did not know the difference between a psychologist and a social worker! As

working relationships develop over a period of time, and each member learns more about how to ask the right question of the other, medical and psychiatric personnel find that they are deriving greater and more valuable services from their psychological colleagues.

FOOTNOTES

1. Zander, Alvin, Cohen, Arthur R., and Stottland, Ezra. "Role Relations in the Mental Health Professions." Ann Arbor: U. of Mich. 1957.
2. Harlow, Robert G., and Salzman, Leonard F. "Toward the Effective Use of The Psychological Consultation". Am. J. Psychiat. 115, 3, Sept., 1958.

"Madison Avenue Poem"

THE COCKTAIL HOUR—

(with apologies to Henry W. Longfellow)

WILLIAM S. SLOAN, M.D.

Petersburg, Virginia

Between the dark and the daylight,
When our genius is beginning to sour—
Comes a pause in the day's occupation
That is known as "the cocktail hour".

I hear it in the chambers above me
Amid the patter on the street
The sound of a bottle being opened
For "whiskies sour" and sweet!

From my table I see in the half-light
A maze of incredible stares,
"Dutch" courage, loud laughing, escapism
And tosspots with dishevelled hairs.

"D Ts" seen here in the making
(Snakes crawling all over the chair)
Later, try to escape—they surround you
They seem to be everywhere!

At these "pseudo-Suave" get-togethers
One meets the oddest of types
Off-beats, beatniks, strong tipplers
Strange moods with a hundred gripes.

The "appetite" devours them like kisses
Compulsion like arms that entwine
Craving surmounts would be "ceasers",
In this "wine tower on the Rhine"!

So a word of advice to the stubborn
Who don't wait for five o'clock*
You're the one who will bear close watching
Or join the alcoholic flock!

*No gentleman drinks before five P.M.

34 Franklin Street
Petersburg, Virginia

"Seens" at the Annual Meeting in Roanoke



Dr. A. A. Creecy has 'em shined up!



Mrs. Walter Porter—Incoming President of the Auxiliary and Mrs. W. H. Kaufman, General Chairman.



Politics—Dr. Paul Pearson and Dr. Ira Hancock.



Signin' in—Dr. Julian Q. Early.



The Boss—Dr. Adams—and His Better Half.



Head Table at the Banquet.



Past Presidents—Drs. King, Archer, Hamner, Caudill, Harrell, Mulholland, Martin, Hundley, Adams, Hagood, Robertson and the Left Arm of Dr. Bates.



Two Hundred Years of Practice—Dr. P. E. Thornhill, C. L. Harrell, J. W. Robertson and W. E. Vest.



Dr. Adams Turns Over Gavel to Dr. Barker.



Oh those Fashions! Dr. Bates and Dr. Adams approve.



The \$64,000 Question—Dr. Holcombe Hurt Ponders.



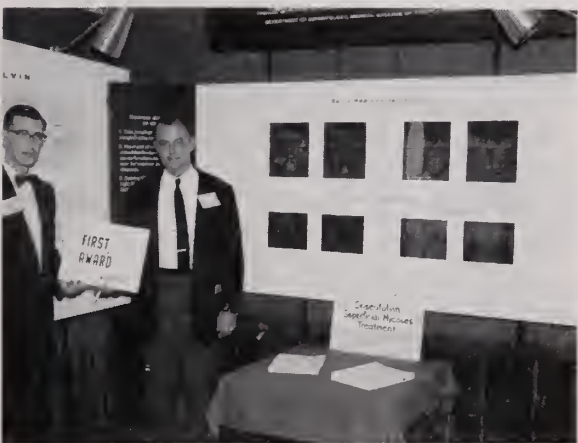
Reference Committee.



Dr. Robert Keeling and Dr. Hugh Stokes confer with Dr. Courtland Davis.



Now Let's See—What Have I Forgotten?
Dr. Robert Hutcheson—General Chairman.



First Prize—Drs. Trice and Murrell.



Coffee Served by Medical Assistants to
Dr. Davis and Dr. Michael.

The Medical Society of Virginia . . .

Council Minutes

The meeting of the Council of The Medical Society of Virginia was called to order by Dr. Walter P. Adams, President, at 1:00 P.M. on Sunday, October 4, 1959, at the Hotel Roanoke. Attending were Dr. Walter P. Adams, Dr. Allen Barker, Dr. Harry C. Bates, Jr., Dr. Guy W. Horsley, Dr. Harry J. Warthen, Dr. Mack I. Shanholtz, Dr. John T. T. Hundley, Dr. Paul Hogg, Dr. K. K. Wallace, Dr. Benjamin W. Rawles, Jr., Dr. Fletcher J. Wright, Jr., Dr. Louis P. Bailey, Dr. Alexander McCausland, Dr. Byrd S. Leavell, Dr. Harold W. Miller, Dr. James P. Williams and Dr. Richard E. Palmer. Also in attendance were Dr. Vincent W. Archer, Delegate to the AMA; Dr. W. Linwood Ball, Delegate to the AMA; Dr. James M. Peery, Second Vice-President; Dr. McLemore Birdsong, Third Vice-President; Dr. Russell Cox, President of the State Board of Medical Examiners, and Dr. K. D. Graves, Secretary of the State Board of Medical Examiners.

Dr. Adams opened the meeting with a brief message of welcome and then introduced Mr. W. L. Painter, Director, Division of General Welfare, State Department of Welfare and Institutions. Mr. Painter stated, that in his opinion, a need existed for improved liaison between his Department and physicians at the local level. He went on to say that consideration is being given to the possibility of financing the cost of hospital care of public assistance recipients from funds appropriated for the several categories of assistance. Such payments would then be subject to federal reimbursement.

During the ensuing discussion, it was brought out that the time has come for physicians to decide just how far the profession should go as far as the use of federal funds is concerned. The dangers of asking for federal funds were pointed out and there was some feeling that medical and hospital care should be covered almost entirely by the localities.

A motion was then offered which would have Council approve the vendor method of payment for medical care and would favor the formation of local advisory committees to the Department of Welfare. There was no second. As a matter of information, the annual report of the Society's Liaison Committee to the Department of Public Welfare was read. Another motion was then introduced asking that Coun-

cil approve the Committee report. It was brought out in the ensuing discussion that this report would come before the House for approval. There was no second.

The report of the Finance Committee and the proposed budget for 1959-60 were presented by Dr. Porter. The budget, as adopted, is included in the minutes of the First Session of the House of Delegates.

Dr. Porter then advised Council of his Committee's request that some committee be appointed to study possible retirement plans for staff personnel. It was moved and passed that the President appoint a committee to study such plans and report to Council at its earliest convenience.

The President then introduced Dr. Russell Cox, President of the State Board of Medical Examiners, who acquainted Council with some of the problems being encountered by the Board. He explained the advantages of using examination questions prepared by the National Board, but pointed out that such examinations had brought additional expense. The Board must pay \$10.00 for each candidate taking the exam and, consequently, it is in the position of needing additional revenue. It was the feeling of Dr. Cox and other members of the Board that a freer hand is needed in establishing fees for the examination and also in determining qualifications. It was his hope that the Legislative Committee could meet with the Board and consider possible legislation designed to meet the Board's current needs.

A question was raised concerning the possibility of granting licenses to physicians retiring from the Armed Forces. It was brought out that legislation would be needed to permit licensure of this kind.

It was then moved and passed that the Legislative Committee, with power to act, meet with and assist the State Board of Medical Examiners in obtaining needed legislation.

Nominations were then considered for 12 Society appointees to the Board of the Virginia Medical Service Association. It was moved and passed that the President be authorized to make these appointments.

Council was asked to once again approve the Virginia Medical Service Association as fiscal administrator of the Medicare Program. It was brought out that the Association had done a very fine job

in this capacity. It was moved and passed that the requested approval be granted.

A special "senior citizen" contract, proposed by the Virginia Medical Service Association, was discussed at length. Although some fear was expressed that the reduced fee schedule might pose some problems, it was generally agreed that the good points of the contract far outweighed any possible shortcomings. The contract was to be presented to the House in order that hearings could be held by the Reference Committee.

Dr. John C. Watson, Chairman, American Medical Education Foundation Committee, was then introduced for the purpose of presenting a special report to Council. He stated that his Committee had encountered some difficulty in interesting component societies in the importance of stressing the Foundation at the local level. Only 13 of the local societies appointed local AMEF chairmen. Dr. Watson went on to say that a very small percentage of the Society's membership were contributing directly to the Foundation. He further stated that during a meeting of the Committee Chairmen in Richmond, it was decided that Council should be approached on the advisability of a compulsory assessment.

After considerable discussion, it was moved that Council do everything possible to promote the American Medical Education Foundation, but that no compulsory assessment be levied. There was some feeling that perhaps a voluntary assessment might be the answer and the motion was amended to include some notice of the AMEF on the Society's regular statements for dues. It was then moved and passed that the motion be tabled.

A resolution on Social Security from the Lynchburg Academy of Medicine was then presented to the Council for information only. It was brought out that a similar resolution would be introduced in the House of Delegates that evening.

Next on the agenda was a resolution from the Virginia Pharmaceutical Association pointing out the need of better liaison between pharmacists and physicians. It recommended that local liaison committees be established to bring about a better working relationship of the two groups.

It was then moved and passed that the Society appoint an advisory committee of three to work with medical and allied organizations and that local medical societies be urged to do the same.

A successor to the late Mr. Robert C. Duval, Jr., Attorney for the Society, was discussed and it was decided that the selection should be left to the

President and the Executive Committee. A motion to this effect was adopted.

Dr. Hundley then moved that a resolution on Mr. Duval be written for publication in the Virginia Medical Monthly. The resolution would also be sent to the immediate family. The motion was adopted.

Council was advised that the Society was encountering a great deal of difficulty in arranging its meetings only two years ahead. With more and more organizations holding meetings of various kinds, it appears that meetings should be arranged at least three, and possibly four, years ahead if desirable dates are to be obtained. It was moved and passed that the Executive Committee be requested to select the dates and locations of annual meetings up to four years in advance.

A question was raised as to whether or not the Society should consider holding another meeting in the District of Columbia. It was pointed out that there does exist a feeling among some in the District that The Medical Society of Virginia should not schedule a meeting in Washington so close to that of their own Society. It was brought out that most physicians in Northern Virginia would like for the Society to meet in Washington every few years and that the wishes of these members should be considered. It was decided that the Executive Committee should take these factors into consideration.

A letter from Dr. John L. Thornton, Richmond, was then read concerning the need for financial assistance for the Northeastern Clearing House of the American Association of Blood Banks. Dr. Thornton pointed out that the Clearing House has been operating at a deficit and has been able to continue only by obtaining a loan from the Medical Society of New York. Medical societies in five states have contributed \$900 each. It was the consensus of Council that the request be referred to the Medical Service Committee for consideration and such recommendation as it might feel necessary.

Considered next was a request from the Committee on Maternal Health that serious consideration be given to a bill, recently passed by the South Dakota Legislature, which provides legislative safeguards for committees obtaining information for statistical purposes. The Committee on Maternal Health believed that similar legislation is needed in Virginia. A motion was then adopted which called for the Legislative Committee, with power to act, to study the South Dakota bill and seek the enact-

ment of similar legislation by the Virginia General Assembly.

Dr. Wallace suggested that the Legislative Committee might well consider a number of laws adopted in other states to control the so-called "quack practitioner".

Next on the agenda was the question of whether or not the Society should continue to elect a "General Practitioner of the Year". Council was reminded that the question had been raised last year in the House of Delegates and had been tabled until 1959. It was reported that some members believed that the award sometimes did more harm than good. A motion was then offered which would refer the question to the Virginia Academy of General Practice. However, it was quickly brought out that the Academy had, only a few years ago, referred the matter to the Society and asked that it be relieved of any responsibility. The motion was lost for want of a second. A new motion was then introduced which would have the award discontinued after this year. The motion was adopted.

There being no further business, the meeting was adjourned.

House of Delegates

FIRST SESSION

The House of Delegates of The Medical Society of Virginia met in the Ballroom of the Hotel Roanoke, Roanoke, Virginia, on Sunday, October 4, 1959, and was called to order at 8:00 P.M. by Dr. Walter P. Adams, President.

Dr. Adams requested a report from the Credentials Committee, and Dr. Ira L. Hancock, Committee Chairman, reported a quorum present (132 Delegates, representing 37 component societies). It was announced that the Prince William County Medical Society had been chartered that afternoon.

The President then introduced Dr. John T. T. Hundley, Speaker of the House. This was Dr. Hundley's first meeting since his serious accident of a year ago.

The Speaker presented Mrs. Charles A. Easley, President of the Woman's Auxiliary to The Medical Society of Virginia and Mrs. Walter A. Porter, President-Elect of the Auxiliary.

The Society's Delegates to meetings of allied organizations were then recognized. Dr. Barker had represented the Society at the annual meeting of the Virginia Pharmaceutical Association and Dr. Hamner had once again served as Delegate to the annual meeting of the Virginia Academy of General Practice.

The Speaker next recognized visiting delegates from allied organizations. Dr. W. T. McAfee, Roanoke, represented the Virginia Dental Association and Mr. Charles Green, Bedford, represented the Virginia Pharmaceutical Association. Mr. Greene, in addressing the House, cited the need for a closer relationship between physicians and pharmacists. He pointed out that patients often raise questions concerning the cost of drugs and that physicians should know the answers.

Dr. Walter A. Porter, Chairman of the Finance Committee, was recognized for the purpose of presenting the proposed budget for fiscal 1959-60 as recommended by Council. It was moved that the report of the Committee be accepted and that the budget be approved. The motion carried.

The budget, as approved, follows:

BUDGET 1959-1960

Executive Office

Salaries	\$29,635.00
Telephone & Telegrams	1,550.00
Postage	1,250.00
Stationery & Supplies	1,200.00
Office Equipment	2,000.00
Building Maintenance	4,000.00
Building Repairs	100.00
Convention Expense	1,000.00
Council & Committees	2,000.00
Executive Assistant	200.00
Delegates to A.M.A.	1,600.00
President's Expense	1,000.00
Travel Expense	1,500.00
Virginia Medical Monthly	40,000.00
Scientific Exhibits	2,500.00
Legal Expense	2,500.00
Walter Reed Commission	500.00
Woman's Auxiliary	100.00
Membership Dues—Affiliated Organizations	215.00
Editor—Virginia Medical Monthly	600.00

Special Appropriations:

Virginia Council on Health & Medical Care	3,000.00
American Medical Education Foundation	3,000.00
National Society on Medical Research	150.00
Rural Health Committee	500.00
Student AMA	250.00
Contribution to AMA June Meeting	500.00
Social Security Taxes	500.00
Miscellaneous	600.00
Special Project on Medical Education (2 Representatives to University of Michigan to study Intern & Residency Program)	350.00

Public Relations:

Conference Expenses	1,000.00
Radio & Press	500.00
Literature & Bulletins	200.00
Miscellaneous Projects	100.00

TOTAL \$104,100.00

Dr. Hundley reported on the afternoon meeting of the Council, and acquainted the House with a proposed "senior citizen" contract, a resolution from the Virginia Pharmaceutical Association, proposed legislation to provide legislative safeguards for committees obtaining information for statistical purposes, the proposed resolution on Mr. Duval, problems surrounding future annual meetings and the General Practitioner of the Year Award.

The Speaker then introduced Mrs. Louise Griener, Secretary, Virginia Academy of General Practice; Dr. John Winebrenner, Regional Administrator, United Mine Workers Welfare Fund; Dr. K. D. Graves, Secretary of the State Board of Medical Examiners, and Mr. Richard Nelson, Field Representative, American Medical Association.

Delegates were then appointed from each Congressional District to assist in the election of a nominating committee. These delegates met with the delegations from their districts during a short intermission which followed.

The Committee on Nominations was announced as follows:

- 1st District: A. A. Creecy, M.D.
- 2nd District: Russell Cox, M.D.
- 3rd District: Thomas W. Murrell, Jr., M.D.
- 4th District: Charles Scott, M.D.
- 5th District: Louis P. Bailey, M.D.
- 6th District: H. H. Hurt, M.D.
- 7th District: Frank A. Tappan, M.D.
- 8th District: Paul C. Pearson, M.D.
- 9th District: J. Glen Cox, M.D.
- 10th District: John T. Hazel, M.D.

Mr. Nelson, AMA, then presented a filmstrip and recorded talk by Dr. Louis Orr on the Forand Bill. Delegates were urged to have their societies adopt resolutions of opposition to the Forand Bill, to personally meet with their congressmen, interest their friends in writing their congressmen, and take an active part in the campaign to solve the aging problem.

Dr. Archer, who represented the Society at a special AMA meeting in St. Louis, asked the Delegates to devote ten per cent of their reading time to problems of a socio-economic nature and to make every effort to become better acquainted with their congressmen.

Dr. Allen Barker, the Society's second representative at St. Louis, brought out the fact that the Forand Bill is definitely misleading and that it cannot solve the problem of the indigent.

The following committee reports, published in

the September, 1959, issue of the Virginia Medical Monthly, were received. Executive Secretary-Treasurer; Delegates to AMA; Editorial Board; Membership; Public Relations; Mediation; House; Walter Reed Commission; Medical Education; Advisory to Woman's Auxiliary; Medicare Advisory; Principles and Policies; Conservation of Sight; Mental Health; To confer with the United Mine Workers Welfare Fund; Federal Medical Services; National Legislative; Insurance; Cancer; Liaison with Department of Public Welfare; Rehabilitation; National Emergency Medical Service; Aging and Chronically Ill; American Medical Education Foundation, and Radiation Hazards (referred to Reference Committee).

The report of the Judicial Committee, containing proposed amendments to the Constitution and By-Laws, was considered and some opposition was voiced to making AMA Delegates voting members of the Council. After considerable discussion, the House rejected the proposed amendment to Article VI, of the Constitution which would have granted AMA Delegates full membership in the Council.

There was some confusion concerning the proposed amendments to the By-Laws which were intended, among other things, to establish three definite classifications of membership and to clarify honorary active and honorary associate membership. Because of the confusion, it was moved and passed that Article I, Section 1, of the By-Laws be amended to include the words "honorary active" and "honorary associate". This would establish and spell out five definite classifications of membership.

Dr. Salley recommended that Virginia's Delegates to the AMA be made full members of the House of Delegates. During the discussion, the question was raised as to whether our Delegates did not already qualify as officers of the AMA. It was ruled that Delegates were not considered as officers of that association.

A motion was then passed calling for the Judicial Committee to prepare such amendments to the Constitution and By-Laws as are necessary to make the Society's AMA Delegates full members of the House of Delegates.

The report of the Committee on Preventive Medicine, containing a proposed bill requiring polio immunization for school admittance, was then discussed at length. The Speaker pointed out that the recommendations of the Committee would be considered by the Reference Committee the following

day and that any debate should be withheld until that time.

In discussing the report of the Committee on Traffic Safety, Dr. Fletcher Woodward pointed out that a sub-committee of the Virginia Advisory Legislative Council has already made a number of recommendations concerning the drinking driver—including the widely discussed “implied consent” clause. The report was referred to the Reference Committee.

A supplemental report from the Rehabilitation Committee was presented by Dr. Hoover. The report strongly advocated passage of “second injury” legislation.

Dr. Hoover then introduced a resolution nominating Dr. Leroy Smith, Richmond, for the award made annually by the President's Committee on the Employment of the Physically Handicapped. The resolution was automatically referred to the Reference Committee.

A supplemental report was submitted by the Committee on Maternal Health, with the request that it be substituted for the report published in the September issue of the Virginia Medical Monthly. The report specifically recommended legislation to safeguard committees obtaining information for statistical purposes.

Dr. Savage then presented the report of the Committee on Medical Service which also contained a recommendation that the Society reaffirm its stand on “second injury” legislation.

A report was received from the Committee to Confer with the State Board of Nurse Examiners and Dr. Mapp introduced three resolutions which were referred to the Reference Committee.

A short progress report on the work of the Legislative Committee was offered by Dr. Elliott. He told of the Committee's work with the State Board of Medical Examiners and explained the problems being encountered by the Committee with reference to “second injury” legislation.

The annual report and recommendations of the Committee on Alcoholism was summarized by Dr. Sloan and referred to the Reference Committee.

The last report offered was that of the Committee on Specific and Chronic Diseases which contained recommendations concerning unoccupied beds at Catawba and Blue Ridge Sanatoriums and expansion of the Russell County Clinic program.

The Speaker called for new business and Dr. Hurt introduced a resolution, sponsored by the Lynchburg Academy of Medicine, on the Social Se-

curity program. The resolution was referred to the Reference Committee.

A resolution from the Southwestern Virginia Medical Society was then introduced by Dr. Stark. The resolution stressed the possibility of high school football injuries and called for physicians to be in attendance at all games. The resolution was referred to the Reference Committee.

Dr. Brittain then raised a question concerning the proper seating of Delegates by District and cited the need of future clarification of the matter by the Judicial Committee.

There being no further business, the meeting was adjourned.

SECOND SESSION

The Second Session of the House of Delegates of The Medical Society of Virginia was called to order by Dr. John T. T. Hundley, Speaker, at 4:00 P.M., Tuesday, October 6, 1959, in the Virginia Room of the Hotel Roanoke.

A quorum was reported by Dr. Ira L. Hancock, Chairman of the Credentials Committee.

Dr. Hundley then called for a report from the Committee on Nominations. Dr. Murrell, reporting for the Committee, submitted the following nominations:

President-Elect: Guy W. Horsley, M.D., Richmond

First Vice-President: Russell Buxton, M.D. Newport News

Second Vice-President: Reverdy H. Jones, Jr., M.D., Roanoke

Third Vice-President: Mallory S. Andrews, M.D., Norfolk

Dr. Buxton requested that his name be withdrawn and nominated Dr. Robert S. Hutcheson, Jr., Roanoke, in his stead. Dr. Jones also regretfully declined the nomination for Second Vice-President and nominated Dr. Buxton in his place. It was then moved that nominations be closed and that a unanimous ballot be cast. The motion was seconded and adopted.

Nominations were then received for the office of Executive Secretary-Treasurer. Robert I. Howard was nominated and subsequently elected.

Received next were the following nominations for Councilor from the First, Third, Fifth, Seventh, and Ninth Districts:

1st District: Paul Hogg, M.D., Newport News

3rd District: Thomas W. Murrell, Jr., M.D., Richmond

5th District: William N. Thompson, M.D., Stuart

7th District: Dennis P. McCarty, M.D., Front Royal

9th District: W. Fredric Delp, M.D., Pulaski

The following nominations from the Sixth District for the State Board of Medical Examiners were received:

Charles M. Irving, M.D.

J. E. Haynesworth, M.D.

K. D. Graves, M.D.

These nominations will be submitted to the Governor for his consideration.

Dr. Hundley requested nominations for two delegates and two alternates to the American Medical Association. The terms of Dr. W. Linwood Ball, and Dr. Allen Barker expire on December 31. Those nominated were Dr. Ball, Dr. Barker, Dr. Salley, Dr. Hundley, and Dr. Buxton. Dr. Hundley then requested that his name be withdrawn from consideration. The vote was by ballot and both Dr. Ball and Dr. Barker were re-elected. Dr. Salley and Dr. Buxton were designated as alternates.

The Speaker then presented the report of the Reference Committee. It was the recommendation of the Committee that the "senior citizen" contract, proposed by the Virginia Medical Service Association, be approved. It was moved and adopted that the recommendation be accepted.

It was the Committee's recommendation that the resolution from the Virginia Pharmaceutical Association be approved and that an advisory committee of three be appointed to work with medical and allied organizations. It was also recommended that component societies be requested to take similar action. The Committee's recommendation was adopted.

Approved next was the Committee's recommendation that legislation be sought which would provide legislative safeguards for committees obtaining information for statistical purposes. It was further recommended that the Legislative Committee, with power to act, study the bill recently adopted in South Dakota and seek the enactment of similar legislation by the Virginia General Assembly. The Committee believed that Section 4 should be deleted from the South Dakota bill and the following words added to Section 1: "except such information as the Commissioner of Health and the State Health Department deem necessary".

Considered next were the recommendations of the Committee with reference to proposed amendments to the By-Laws. It was the Committee's recommen-

dation that the proposed amendments to Article I, Section 1, 3, and 4, and the proposed amendment to Article II, Section 3, be approved. The purposes of the first three amendments are to establish five classifications of membership, to clarify the status of courtesy members and to clarify honorary active and honorary associate membership. The purpose of the amendment to Article II is to clarify the dues exemption status of those members elected to honorary active or honorary associate membership. The recommendations of the Committee were adopted and the By-Laws will be amended accordingly.

The Committee then recommended that the following resolution be adopted:

BE IT RESOLVED THAT The Medical Society of Virginia urge that all recommended immunizations be administered as early in life as possible; that the profession administer such immunizations to its patients at a reasonable fee or if a patient is unable to pay, without fee; that the private physicians cooperate with public health efforts in encouraging immunizations and in conducting free immunization clinics; that the local medical societies take every possible action to support immunizations;

AND FURTHER BELIEVING THAT passage of a law requiring specific immunizations previous to entrance to school will tend to produce delay in administration of needed immunizations;

IT IS FURTHER RESOLVED THAT proposed laws to accomplish such purpose not be advocated at this time.

The resolution was adopted.

The House then approved the Committee's recommendation that the 6 recommendations contained in the report of the Committee on Medical Service be approved. (The report of the Committee is published in a special section immediately following these minutes). The Committee also called attention to the fact that both the Medical Service Committee and Rehabilitation Committee had requested the Society to advocate and reaffirm its previous position regarding passage of "second injury" legislation.

The Committee recommended that no action be taken at this time on the report of the Traffic Safety Committee, but that the Committee be urged to continue its study of this very pressing problem. The recommendation was approved.

The House unanimously approved the recommendation that the following resolution be adopted:

BE IT RESOLVED that we, The Medical Society of Virginia, recommend to the President's Commit-

tee on Employment of the Physically Handicapped, Dr. Leroy Smith of Richmond, Virginia, for his outstanding efforts expended in promoting equal opportunity in employment for the physically handicapped.

In considering three recommendations by the Committee to Confer with the State Board of Nurse Examiners, the Reference Committee approved the suggestion "that The Medical Society of Virginia recommend that Virginia physicians' assistants join the American Association of Medical Assistants which has been approved by the American Medical Association as having merit for them and which is not a threat to practical and professional nursing." This recommendation was approved.

The Committee recommended that the Editorial Board consider the suggestion that an occasional page in the Virginia Medical Monthly be utilized by the Virginia Board of Nurse Examiners for the purpose of enlisting the aid of Virginia physicians in the training and recruitment of nurses. The material used would be subject to approval of the Editors of the Virginia Medical Monthly and the Committee to Confer with the State Board of Nurse Examiners. The recommendation was adopted.

The House then heard a recommendation that the Legislative Committee, with power to act, be authorized to meet with and assist the State Board of Medical Examiners in obtaining legislation which would provide the Board with a freer hand in establishing the qualifications of applicants and fees for examinations. The recommendation was adopted.

Considered next was the report of the Committee on Alcoholism. The report was accepted and it was suggested that the Program Committee for 1960 be made aware of the Committee's wish to provide a panel discussion at the next annual meeting.

The House approved the Committee recommendation that "subject to the consent and cooperation of the local medical societies, further expansion of the program used in Russell County be urged". (This program is covered thoroughly in the April, 1958, issue of the Virginia Medical Monthly).

With reference to the resolution introduced by the Lynchburg Academy of Medicine on Social Security, the Reference Committee proposed that the following resolution be substituted:

BE IT RESOLVED THAT following publication in the Virginia Medical Monthly of the panel discussion on Social Security, The Medical Society of Virginia will conduct a poll of the members. The ballot will state that the extension of Social Security

coverage to physicians would be compulsory and irrevocable as long as Social Security remains national policy.

The results of the poll will be binding on the Delegates to the AMA if there is majority vote pro or con of the membership of The Medical Society of Virginia.

Ballots will be signed and names checked against The Medical Society of Virginia roll.

The questionnaire would read as follows:

1. Are you a member of The Medical Society of Virginia?
 2. Are you now in active practice?
 3. Do you favor compulsory Social Security coverage of physicians? Yes_____ No_____
- Valid only if signed.

SIGNED:_____

There followed considerable discussion on the Reference Committee substitute resolution and an amendment was offered regarding the binding results to include the words "a majority of the practicing registered physicians in Virginia". The motion was seconded and after further discussion a motion was adopted closing debate. This motion carried. The proposed amendment was then lost. Another amendment was offered which would have the proposed questionnaire ascertain whether or not the physician was under Social Security. Following a motion to close debate, the amendment was lost. The House then voted on the resolution proposed by the Reference Committee and it was adopted.

The following resolution, proposed by the Southwestern Virginia Medical Society and recommended by the Reference Committee was adopted:

In that there is a need for cooperation between school officials and the physicians of Virginia, and in that there is a great possibility for minor and even major injuries while playing high school football,

BE IT RESOLVED that the local medical societies of Virginia endeavor in all possible ways to see that a physician be in attendance at all football games between high schools of this State, and

BE IT FURTHER RESOLVED that a copy of this resolution be sent all local medical societies of Virginia.

Considered next was the Committee recommendation that Article V, Section 8 of the By-Laws be referred to the Judicial Committee for study and necessary action. The recommendation was approved.

The Committee then recommended that the House

adopt the recommendation of the Committee on Radiation Hazards that the Society do everything possible to seek enactment of a proposed bill (refer to committee reports published in the September issue of the Virginia Medical Monthly) by the General Assembly of Virginia. This bill would declare the public policy of the State with respect to radiation and radioactive materials. It would define certain terms and would create a state radiation control agency and a committee to assist such agency. The bill would further prescribe the powers and duties of such agency and committee, prohibit certain practices and provide penalties for violations. The Committee's recommendations were adopted.

The House, by standing vote, unanimously adopted the following expression of regret on the death of Mr. Robert C. Duval, Jr.:

The untimely death of Robert C. Duval, Jr., was a severe shock to his friends. No group was more distressed or oppressed with a sense of deep loss than the membership of The Medical Society of Virginia. For a number of years he had served as Attorney for the Society, but he was much more than a capable and valued legal advisor—he was a friend, and counselor. Thorough in his study, patient in his explanation, wise in his counsel, he guided The Medical Society of Virginia through confusing paths of obscurity to legislative and public opinion accomplishments of great and lasting value.

We miss him personally and we miss his guiding counsel. He cannot be replaced in our regard.

To his family and associates, we express our deep sympathy, and share with them a feeling of profound personal loss.

Considered next was the recommendation of the Committee that the title of the Liaison Committee to the Department of Public Welfare be changed to that of Advisory Committee. The recommendation was approved.

Approved was a recommendation that the Society accept an invitation to participate in the 1961-65 commemoration of the Civil War. The Society would cooperate in the portrayal of the medical aspects of the conflict.

Dr. Hundley then covered a number of suggested changes in the Maternity Hospital Laws and advised the House that the Committee recommended that the proposed changes be referred to the Bureau of Licensure of Hospitals and Nursing Homes (State Department of Health) for study and guidance.

An election was held to name the "General Prac-

itioner of the Year in Virginia" and the honor went to Dr. Montie Lewis Rea.

It had previously been decided that, after this year, the election of a "General Practitioner of the Year" would be discontinued.

Dr. Salley introduced the following resolution which was adopted unanimously:

BE IT RESOLVED THAT the House of Delegates of The Medical Society of Virginia commend our host committee of the Roanoke Academy of Medicine for its efforts in connection with the 112th Annual Meeting, and

BE IT FURTHER RESOLVED THAT the House extend its sincere thanks to the Staff and employees of the Hotel Roanoke for their part in making this meeting one of the most pleasant and successful in our memory.

Dr. Hundley was asked to relinquish the platform to Dr. Walter P. Adams, President. The following resolution was then adopted by a rising vote:

RESOLVED, that this House express its pleasure at the recovery of the Speaker and express to him its deep appreciation for his most efficient work at this session by a rising vote.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD
Secretary

APPROVED: WALTER P. ADAMS, M.D.,
President

Fifty Year Club Certificates—1959

Sidney Elsom Bray, M.D., Newport News
William Wilson Samuel Butler, M.D., Roanoke
William Lee Cosby, M.D., Painter
Mercer Waller Crafford, M.D., Lee Hall
Sylvester P. Gardner, M.D., Gate City
William Lawrence Gatewood, M.D., Richmond
Charles Lydon Harrell, M.D., Norfolk
James Morrison Hutcheson, M.D., Richmond
Thomas Edward Jones, M.D., Charlottesville
Thomas E. Patteson, M.D., Dillwyn
Joel Cutchins Rawls, M.D., Franklin
John William Robertson, Onancock
Hugh W. Smeltzer, M.D., Greendale
James Waller Smith, M.D., Hayes
Paige Earl Thornhill, M.D., Norfolk
Thomas Jefferson Tudor, M.D., Norton
Walter Edward Vest, M.D., Huntington, W. Va.
William Robert Weisiger, M.D., Richmond

Members Whose Deaths Have Been Reported Since 1958 Annual Meeting

Waller C. Akers, M.D.
Sheppard Kellam Ames, M.D.
George E. Barksdale, M.D.

Howson Wallace Blanton, M.D.
 Altamont Hart Bracey, M.D.
 William Edward Bray, M.D.
 Meade Stith Brent, M.D.
 Edwin Wheeler Buckingham, M.D.
 Isaac Wickham Cunningham, M.D.
 Thomas Welch Dew, M.D.
 Austin Ingram Dodson, M.D.
 Courtney Edmond, M.D.
 Linwood Farley, M.D.
 George Lee Fosque, M.D.
 Mervin Wilbur Glover, M.D.
 Lewis Clay Haley, M.D.
 Merritt Wood Healy, M.D.
 Nicholas Flood Hix, M.D.
 John Gill Holland, M.D.
 John Williams Hooker, M.D.
 Frank Hopkins, M.D.
 Harry Gilman Hudnall, M.D.
 Henry Vernon Johnston, M.D.
 Delbert Vine Kechele, M.D.
 Prentice Kinser, Jr., M.D.
 D. Hunter Marrow, M.D.
 Aaron W. Martin, M.D.
 Howard Russell Masters, M.D.
 Lewis C. McNeer, M.D.
 Jerome Natt, M.D.
 Cullen Pitt, M.D.
 William Ribble Pretlow, M.D.
 Charles Loren Ransom, M.D.
 Benjamin Watkins Rawles, M.D.
 Thomas Allen Ray, M.D.
 Emmett Francis Reese, M.D.
 Ernest Clay Shull, M.D.
 Thomas Eldridge Stanley, M.D.
 Robert Milton Taliaferro, M.D.
 John Bolling Vaiden, M.D.
 Porter Paisley Vinson, M.D.
 William Harvey Whitmore, M.D.
 John Franklin Williams, M.D.

Legislative

Only one matter was referred to your Committee for action during the year. This, of course, can be attributed to the fact that this was between regular sessions of the General Assembly. A special session, however, was called to deal with problems on public education.

It was this special session which prompted the State Board of Medical Examiners to seek the assistance of the Legislative Committee in amending the State Code in such manner as to make it possible for the Board to utilize examinations prepared by the National Board of Medical Examiners. The one obstacle which had to be removed was that calling for such examinations to be filed in the Office of the Secretary of the Commonwealth. This was frowned upon by the National Board, since it considered such a requirement as a danger to the security it believes necessary.

The General Assembly did adopt legislation amending the Code in such way that the examinations could be filed with the Secretary of the State Board of Medical Examiners rather than with the Secretary of the Commonwealth.

It might be well to mention that members of the Com-

mittee have discussed its role in supporting the Society's stand on "second injury" legislation. There are a number of problems which must be solved before any positive action can be taken. Undoubtedly the committee will give this matter serious consideration at its next formal meeting.

W. C. ELLIOTT, M.D., *Chairman*

Specific and Chronic Diseases

This committee was left with a problem from this same committee of last year. The problem of whether or not to recommend to the Legislature that the unoccupied beds at Catawba and Blue Ridge Sanitoriums be used for non-tubercular patients from the indigent group in Virginia. The Public Health members of the Committee feel that this utilization of unoccupied beds is definitely worthwhile, but they agree that we might afford to wait awhile before making such a decision. The practicing physicians of the committee who voted, with one exception, did not feel that the Society should request the Legislature to authorize such use for these unoccupied beds at the present time. In lieu of this, the opinion of the entire committee was that The Medical Society of Virginia should approve, subject to the consent and cooperation of the local medical society, further expansion of the program used in Russell County through the general medical clinic in the locality which is staffed by the local physicians with the help of the Public Health Department.

WILLIAM R. JORDAN, M.D., *Chairman*

Alcoholism

The problem of alcohol consumption and of alcoholism continues to plague our civilization, and whether or not we admit it publicly, offers one of the biggest challenges to the medical profession today. It is at least the fourth greatest health problem in our nation.

This is hardly surprising if we but stop to realize that "the cocktail party" is synonymous in the mind of the average American with "the social hour". As long as the cocktail party is the trademark of our times (the *sine qua non* for climbing the social ladder), the combination of frequent exposure and social pressure will tend to break the thin line between social drinking and alcoholism. Our "glass crutches" are more fragile than we realize. Besides being the "trademark" of our day and age, the cocktail party may also be the onus, since drinking is thereby sanctioned in the mind of the average middle-class American. This runs the gamut of beer to champagne, beer having been said to be the poor man's symphony concerts—not that beer drinking is limited to the poor. Practically all major league baseball teams have beer sponsors.

The New York Times has suggested that vodka is the Soviet secret weapon. Professional people, including bankers, brokers, business men, lawyers, and physicians are said to be day-time partakers of this insidious beverage, smug in the assurance that the breath will not betray such indiscretion. Vodka sales have "sputniked" all over the country. "It leaves you Breathless!"

San Francisco enjoys the reputation of being the most fascinating city in the United States. At the same time, it holds the questionable distinction of having the highest rate of alcoholism. Sipping a cocktail at the "Top of the Mark" is emblematic of a visit to that City.

It is, indeed, unfortunate that the social trademark of our times is something that tends toward negation of responsibility. All this should serve to indicate that the reason there are so many "alcohol-flavored" accidents is because there is so much "alcohol-flavored" thinking. (We jokingly classify city dwellers as "urbanites, suburbanites and bourbonites.")

The drinking driver is the greatest unguided missile of all times!

Certain it is that the alcoholic ranks are being filled daily from all walks of life. Unless we of the medical persuasion, can be "persuaded" that this is to a large extent our problem, (since it is a medical one), no appreciable dent can be made in this bumper of defiance against reality. This work has to be done at local levels; some high-echelon planning, to be sure, but mainly how to enlist the aid of the family physicians in every community is the problem. Psychiatrists are inadequate in number and disposition to handle the problem alone. A firm but sympathetic attitude is needed by physicians and other interested personnel.

At our committee meeting this year, we decided to attempt to awaken each doctor in The Medical Society of Virginia to the enormity of the problem, and ask him to accept the challenge.

Accordingly, we make the following recommendations:

1. That there be cooperation at all local levels.
2. That we work with ministers, priests and rabbis, who are becoming increasingly cooperative as they become increasingly aware of the problem of alcoholism.
3. That alcohol education for key citizens of the community, for example, civic clubs, and men's clubs (in churches) be made available.
4. That there be cooperation with Alcoholics Anonymous. This is the best facility to help the alcoholic find himself. Ninety-four per cent of physicians encourage this association with A.A.
5. That we counsel with alcoholics and their families.
6. That we refer alcoholics to our DASR unit and out-patient clinics—Richmond, Norfolk, Abingdon, Charlottesville, Roanoke and Fairfax County. Virginia is one of twenty-four states who provide rehabilitation services for alcoholics.
7. That we provide a panel discussion at our annual Virginia State Medical Society meeting as soon as we can persuade our program or steering committee of the importance of such a work-shop.

WILLIAM S. SLOAN, M.D., *Chairman*

JAMES ASA SHIELD, M.D.

RUSSELL G. McALLISTER, M.D.

EBBE C. HOFF, M.D.

WILLIAM F. GIBBS, M.D.

To Confer With State Board of Nurse Examiners

During the year, the Committee has attempted to cooperate with the State Board of Nurse Examiners, the efforts of both groups being directed at increasing the number and quality of nurses. To this end, The Medical

Society of Virginia was induced to contribute approximately two hundred dollars to a brochure which was very well done and gave all pertinent facts in regard to nurse education in Virginia in one pamphlet. This brochure has been well received and the nurses feel that it has been most helpful and have expressed their appreciation to the Medical Society for this cooperation, which enables its recruiting.

The Board reports that it has twenty-seven training programs in force in the State and that the number of nurses who entered training in 1959 was nine hundred and ninety-nine as opposed to nine hundred and sixty-three in 1958. As matters stand, it is felt that the programs are training as many student nurses as the instructing nursing personnel can presently tend to. It is recognized that more nurses are needed in all categories and efforts are being directed to this end. It is of interest to note that nurse registrations in the State are on the increase and that less nurses are leaving Virginia than were leaving the State several years ago.

This Committee conferred with the Nurses Board on 8-19-59 specifically as regards the efforts of an organization known as "The American Registry of Doctors' Nurses" to solicit membership among all assistants in Virginia's doctors' offices, the endorsement of the doctor being required. The matter was thoroughly studied and it was concluded that this organization tends to damage the recruitment program for R.N.'s and practical nurses and that it has no merit for the doctors' assistants involved. This Committee therefore recommends most strongly to The Medical Society of Virginia that its members refuse to endorse their assistants for membership in the American Registry of Doctors' Nurses.

This Committee discussed the Forand Bill with the State Board of Nurse Examiners in view of the fact that the American Nurses Association, which represents nurses generally in the same way as does the AMA represent physicians, gave its endorsement to this bill at the Congressional hearing in July 1959. This Committee urged the Virginia nurses to reconsider the matter and to allow The Medical Society of Virginia to supply speakers on the subject or educational matter, if the nurses cared to have the matter discussed at the Virginia Nurse Association meeting, in the event they care to reconsider the matter. The implication was that the Virginia nurses had had little to do with the endorsement of the Forand Bill.

The Committee offered its services to the Nurses Board in whatever way it may help in the recruitment of nurses for training and in eliciting the cooperation of physicians in general in the training of nurses. It was suggested that utilization of an occasional page in the Virginia Medical Monthly to this end might prove helpful. Thus, this Committee urges The Medical Society of Virginia to permit this.

Your Committee feels that a spirit of real cooperation is developing by these joint efforts directed at better patient-care, better nursing and thus better medicine.

JOHN R. MAPP, M.D., *Chairman*

JOHN P. LYNCH, M.D.

ANDREW D. HART, M.D.

JAMES M. MOSS, M.D.

H. H. HURT, M.D.

Maternal Health

The Committee on Maternal Health met on March 11, and July 25, 1959, with eleven of the thirteen members present at each meeting.

This Committee has as its primary function the detailed study of every maternal death occurring in Virginia and this study is carried out at each meeting from information tabulated by the attending physician, the hospital and relatives. All such information and identification is completely anonymous to the members of the Committee and after a careful study the primary cause of death, the classification as to maternal, medical or surgical death and the preventability or non-preventability determined if possible. Three meetings annually are required to complete this detailed survey.

For several years a sub-committee has studied the problem of training, licensing and the supervision of midwives in Virginia and after much deliberation presented to the entire Committee in July their recommendations relating to this important problem. These recommendations will be forwarded to The Medical Society of Virginia for the enactment of the proposed necessary legislation.

A second sub-committee has also studied carefully the problem of licensing Sub-Standard Hospitals for maternity care and delivery and their recommendations were also approved by the Committee and forwarded to The Medical Society of Virginia.

At the first meeting, the Committee was confronted with the problem of the availability of maternal death records and classifications to the physicians, to hospitals, to legal counsel for relatives and even to Courts. This Committee requests that the attorney for The Medical Society of Virginia formulate the necessary legislation requiring that all information secured in a maternal death be privileged, statistical and unavailable for any court action as practiced in many other states. The Committee did agree that the reports of maternal deaths would be made available to the attending physician on written request to the State Department of Health.

The sub-committee on Maternal Death Classification has recommended that the terminology and classification as recommended by the American Medical Association in the "Guide for Maternal Death Studies 1957" be used in the study in classification of all maternal deaths in this State.

The Committee approved the following motion: "As a result of the study of maternal deaths in Virginia, the Committee agreed that certain of these deaths might have been prevented if a policy were followed whereby internes and residents would consult with the attending physician concerning any major obstetrical procedure before any treatment or operation be instituted. The Committee, therefore, recommends that the observance of such a policy be strictly adhered to throughout the state."

The Program Committee of the State Medical Society will be notified that the Committee on Maternal Health is available for the 1960 Program of the Society if desired.

President-Elect Allen Barker, M.D., of The Medical Society of Virginia was informed by the Chairman, at Dr. Barker's request, that in his opinion all of the present members of this Committee should be retained during

the coming year because of their knowledge and experience handling the problems of the Committee.

The membership of this Committee has shown clearly their deep interest in the promotion of better obstetrical care in the State of Virginia by their continued attendance to three meetings annually with the necessary loss of much time from their practice, and their sincerity of effort is hereby commended.

EUGENE S. GROSECLOSE, M.D., *Chairman*

Medical Service

This committee has met on two separate occasions during the year, March 7 and June 28. The sub-committees have been quite active during the year, and their reports were received on both occasions. The sub-committee on medically indigent has considered this problem and recommended that this matter be dealt with on an entirely local basis, each county or city medical society being responsible for resolving its problems with the local department of public welfare and governing agency.

The committee on prepaid medical care and hospital insurance and its sub-committee on insurance have held several meetings and considered problems that have been referred to them. These problems have been resolved and, so far as we know, to the satisfaction of all concerned. This committee is performing a very important service, and any problem relating to medical or hospital insurance should be considered by them.

Due to circumstances beyond their control, the sub-committee on hospital-physician relationships has been unable to meet. However, the entire committee on medical service has considered some of their problems and has made recommendations regarding same.

The sub-committee on rural health, chairmanned by Dr. Cecil G. Finney, again presented awards to the 4-H health project winners at the annual meeting at Blacksburg.

The sub-committee on industrial medicine has been inactive during the year. However, the chairman of the medical service committee and another member of this committee were invited to appear before a committee of the Virginia Advisory Legislative Council on the advisability of a "Second Injury Law". Following a closed meeting of this committee, an open meeting for the public was held and several speakers appeared, some of whom were obviously opposed to this type of legislation. It was the opinion of those attending this committee meeting, however, that those who had given real consideration to both sides of the question were very much in favor of this type of legislation.

The committee wishes to make the following recommendations for the future:

1. That the appropriation of \$500 for the purpose of making awards to the 4-H Clubs be continued.
2. That a liaison be established with the Virginia Hospital Administrators Association and that a committee be appointed to meet with this organization in order that we may be kept aware of its activities.
3. That the recommendations of the sub-committee on care of the medically indigent be accepted.
4. That physicians who are involved in litigation suits should not charge their services to the insurance

company responsible for medical care. It was the opinion of the committee on prepaid medical and hospital insurance that fees for services rendered were just but that they should not be a part of the fee for medical attention.

5. That the House of Delegates should reaffirm its previous position taken in 1958 and 1959 regarding the desirability of a "Second Injury Law".
6. That any committee establishing a recommended fee system should consult the various specialties regarding the value of their services before the final adoption of such a recommended system.

CHARLES L. SAVAGE, M.D., *Chairman*

Conservation of Hearing

During the past year, in which many unusual problems harried those concerned with school populations, it is heartening to find from the reports of the members of the Committee on Conservation of Speech and Hearing, an unabated and continued interest. The programs which were initiated to handle this handicapped group as local problems, have continued to thrive and extend their service. To the established active programs now in Richmond, Charlottesville, Lynchburg and Bristol, now has been added another in Norfolk, by the development of a Speech and Hearing Center at the College of William and Mary.

Previous reports to the Society have called attention to the obvious lack of uniformity of sponsoring groups, organization, personnel, goal and financing of each separate project in each separate community. Although this is easily understandable to people experienced in welfare and therapy problems, it is true that confusion does exist and will have to be resolved before these matters can be turned over to a yet-to-be-established Commission, such as now exists for the Blind. One of the technical factors concerning personnel, for instance, is that the lack of qualified therapists available generally has deluded, in some areas, the standards accepted by the State Board of Education and National Association. This and similar problems has concerned the leaders of the speech therapy groups and has been met by the establishment of a Virginia Chapter of the American Association for Speech and Hearing. Thus this reorganization of qualified personnel may be able to stimulate an upgrading of those who are deficient by establishing better public relations between the separate projects. Statewide cooperation between speech and hearing groups would aid greatly in dissipation of media designed to interest undergraduates in our normal colleges in this field of endeavor, as well as better public education for all. The spectre of continued confusion will serve as a goad to this Committee towards its objectives of establishing some degree of uniformity between the spheres of local interest.

It is with gratitude that the Committee wishes to recognize the efforts of the many service clubs who have continued to express their interest in these matters. The Junior League of Richmond and Norfolk areas efforts have been noted in previous reports. Special mention should be made of the Junior Chamber of Commerce's screening program in the smaller communities near Charlottesville this past year, and the Portsmouth Kiwanis Club's fourth season of sponsoring summer and fall

speech clinics and training programs. The Committee further notes with appreciation the loyal, active individual supporters in every area of the state, as well as cooperation from the foundations mentioned above, and from this membership of the Virginia Society for Crippled Children and Adults and the State Board of Health and Education.

The new surgical techniques of tympanoplasty and stapes mobilization have created much excitement in the field of otolaryngology. With the broadened outlook of experience in these matters, the old dream of a dry ear and good hearing after mastoidectomy seems almost within our grasp. Also, with experience, the various schools of thought have united to create a new philosophy which has been most harmonious. The Committee is pleased to report that the various regions of the state now possess competent otologic surgical consultants. Physicians who are interested further in these matters are urged to consult one of the members of this Committee.

CAL T. BURTON, M.D.

JAMES R. GORMAN, M.D.

W. COPLEY MCLEAN, M.D.

PETER PASTORE, M.D.

JOHN G. SELLERS, M.D.

FLETCHER D. WOODWARD, M.D.

NEIL CALLAHAN, M.D., *Chairman*

Virginia Medical Service Association Richmond, Virginia

BLUE SHIELD SENIOR CITIZEN CONTRACT

ENROLLMENT:

The Senior Citizen Contract shall be available to (and restricted to) persons age 65 and over, (also to single females age 62 and over)—provided these persons are not eligible for Blue Shield enrollment through employee Groups. Previously enrolled Blue Shield members may convert to this Contract upon attainment of the stipulated ages and retirement.

The Plan's usual health statement form for non-Group enrollment will be required. However, those persons enrolling during the initial offering will be accepted regardless of health status. Those enrolled subsequently will be underwritten liberally.

COVERAGE:

The scope of benefits shall be the same as those available under the Blue Shield Standard Contract:

- (1) Medical Care—60 days per hospital confinement. Discharge and readmission within 90 days constitutes the same hospital confinement.
- (2) Surgical Care—According to Fee Schedule (maximum \$150.00).
- (3) Anesthesia—According to Fee Schedule
- (4) Radiological Services—Up to maximum of \$50.00 per contract year for diagnostic x-ray examinations and up to maximum of \$100 per contract year for therapy (also up to \$100 per contract year for rental or cost of radioactive materials).
- (5) Pathological Services—limited to tissue examinations (Surgical pathology).
- (6) Consultations—\$7.50.

WAITING PERIODS:

Six months for pre-existing conditions, hernias, tuber-

culous conditions, nervous and mental conditions, elective surgical procedures.

INCOME LIMITS FOR FULL-SERVICE BENEFITS:

Individual ----- \$1,500
Husband & Wife ----- \$2,500

FEE SCHEDULE:

Except for radiological services, allowances shall equal approximately two-thirds of Standard Contract Fees (see following partial listing).

PREPAYMENT RATE:

\$1.75 per month, per person.

PARTIAL LIST OF INCLUDED SERVICES WITH ALLOWANCES

MEDICAL CARE:

First two days, each ----- \$5.00
Third through Seventh day, each ----- 3.00
Subsequent days ----- 2.00

SURGICAL CARE:

Appendectomy ----- \$ 50
Cystectomy ----- 150
Cholecystectomy ----- 100
Gastrectomy, subtotal ----- 100
total ----- 150
Resection of large intestine ----- 150
Hysterectomy, total ----- 100
Mastectomy, radical ----- 150
Prostectomy, subtotal ----- 100
radical ----- 150
Thyroidectomy ----- 100
Cataract, operation ----- 100
needling ----- 35
Fractures:
Femur ----- 125
Radius and ulna ----- 50
Tibia ----- 50
Tibia and fibula ----- 75
Colles' ----- 35
Potts ----- 50

ANESTHESIOLOGY:

<i>Blue Shield Surgical Fee</i>	<i>Blue Shield Anesthesia Fee</i>
\$5 to and including \$60	\$10
61 " " " 75	15
76 " " " 125	20
126 " " " 150	30

RADIOLOGICAL SERVICES:

Same as Standard Blue Shield Medical Surgical Contract.

PATHOLOGICAL SERVICES:

Surgical, gross only ----- \$2.50
gross and microscopic ----- 7.50
frozen section (includes permanent section) ----- 17.50

AUDITOR'S REPORT

OFFICERS AND COUNCILORS

THE MEDICAL SOCIETY OF VIRGINIA
RICHMOND, VIRGINIA

GENTLEMEN:

We have made an examination of the books and records of THE MEDICAL SOCIETY OF VIRGINIA, Richmond, Virginia,

for the fiscal year ended September 30, 1959, and have prepared therefrom the Balance Sheet, Exhibit "A", Statement of Surplus, Exhibit "B", and Statement of Income, Expenses and Capital Outlay, Exhibit "C". With the exceptions noted in the immediately following paragraph, our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We did not verify the accounts receivable by direct correspondence with the debtors, nor did we verify the accounts payable. It will be noted from the balance sheet that the amounts of these items are not material in relation to the financial position as a whole.

It is our opinion that the Balance Sheet, Exhibit "A", presents fairly the financial position of the Society at September 30, 1959, in accordance with generally accepted principles of accounting. The Statement of Income, Expenses and Capital Outlay, Exhibit "C", is prepared on a basis of cash actually received and disbursed.

Yours very truly,

MITCHELL, WIGGINS & COMPANY
By CHARLES W. ANDERSON
Certified Public Accountant

BALANCE SHEET

September 30, 1959

ASSETS

GENERAL FUND

Cash in banks -----	\$ 66,776.81
Accounts receivable:	
Dues from members—Estimated	
collectible value—1959 dues—	
50 @ \$25.00 -----	\$1,250.00
Advertising—Virginia Medical	
Monthly -----	6,912.58
	<u>8,162.58</u>
Investments:	
United States Savings Bonds—	
Present value (Schedule 1) -----	20,453.00
	<u>\$ 95,392.39</u>

PLANT FUND

Land and building—At cost (Schedule 2)	\$112,073.67
Furniture and equipment: (Schedule 2)	
Estimated value — October 1,	
1950 -----	\$5,353.11
Cost of acquisitions since Octo-	
ber 1, 1950 -----	7,701.30
	<u>13,054.41</u>
	<u>\$125,128.08</u>

EXHIBIT "A"

LIABILITIES AND SURPLUS

GENERAL FUND

Accounts payable:	
Preparation of Medical Journal—	
September, 1959 -----	\$ 3,857.29

VIRGINIA MEDICAL MONTHLY

Surplus:

Available for appropriation:

Balance—September 30, 1959

(Exhibit "B") 91,535.10

\$ 95,392.39

PLANT FUND (Exhibit "B")

Surplus invested in plant assets \$125,128.08

\$125,128.08

STATEMENT OF SURPLUS

For the Fiscal Year Ended September 30, 1959

EXHIBIT "B"

GENERAL FUND

Balance—October 1, 1958 \$ 78,081.29

Add:

Net cash increase

(Exhibit "C") \$12,310.40

Increase in accounts

receivable 1,436.40

Increase in bond interest

adjustment 499.50

TOTAL \$14,246.30

Deduct:

Increase in accounts payable 792.49 13,453.81

Balance—September 30, 1959 (Exhibit "A") \$ 91,535.10

PLANT FUND

Balance—October 1, 1958 \$132,469.75

Add:

Expended for new building \$18,028.67

Expended for furnishings and

decorations 2,205.41

Expended for furniture and

equipment 6,749.65 26,983.73

TOTAL \$159,453.43

Deduct:

Book value of real estate and furniture

sold 34,325.40

Balance—September 30, 1959 (Exhibit "A") \$125,128.08

STATEMENT OF INCOME, EXPENSES AND CAPITAL OUTLAY

For the Fiscal Year Ended September 30, 1959

EXHIBIT "C"

ACTUAL BUDGET

GROSS INCOME

Membership dues \$ 57,935.24

Interest on investments 998.90

American Medical Association 359.62

Miscellaneous 81.19

Virginia Medical Monthly:

Advertising \$46,237.86

Subscriptions—Non-

members 392.81 46,630.67

TOTAL \$106,005.62

EXPENSES

Executive office:

Salaries \$27,474.88 \$27,785.00

Telephone and telegrams 1,330.41 1,550.00

Postage 1,220.60 1,250.00

Stationery and supplies 1,723.98 1,000.00

Office equipment—Repairs and

Replacements 922.34 800.00

Building maintenance and re-

pairs—Net 3,803.48 3,500.00

Convention expense (2,384.63) 1,000.00

Council and committee expenses 953.33 2,500.00

Delegates and executive assist-

ant to A.M.A. 1,021.12 1,950.00

President's expenses 837.12 1,000.00

Traveling expenses 1,255.04 1,700.00

Preparation and distribution of

medical journal 38,717.33 36,000.00

Scientific exhibits 1,999.55 2,500.00

Legal expenses 1,900.00 2,000.00

Walter Reed Commission 88.80 500.00

Woman's Auxiliary — 100.00

Membership dues—Affiliated

agencies 200.00 205.00

Editor—Virginia Medical

Monthly 600.00 600.00

Special appropriations:

Virginia Council Health and

Education 3,000.00 3,000.00

American Medical Education

Foundation 3,000.00 3,000.00

National Society on Medical

Research 150.00 150.00

Rural Health 500.00 500.00

Student — American Medical

Association 200.00 200.00

Other special appropriations 403.34 450.00

Social security taxes 460.13 500.00

Miscellaneous 368.23 600.00

Total—Executive Office \$89,745.05 \$94,340.00

Public relations department:

Conference expenses \$ 412.50 \$ 500.00

Radio and press 44.23 600.00

Literature and bulletins 224.86 200.00

Miscellaneous — 100.00

Total—Public relations

department \$ 681.59 \$ 1,400.00

TOTAL EXPENSES \$90,426.64 \$95,740.00

EXCESS OF OPERATING IN-

COME OVER OPERATING

EXPENSES \$15,578.98

OTHER INCOME

Sale of real estate and office furniture	23,715.15	\$ —
TOTAL	\$39,294.13	

CAPITAL OUTLAY

New office building and equipment	26,983.73	\$29,160.41
EXCESS OF INCOME OVER EXPENSES AND CAPITAL OUTLAY (Exhibit "B")	\$12,310.40	

PLANT FUND ASSETS September 30, 1959

SCHEDULE 2

LAND AND BUILDINGS—At cost			
4205 Dover Road, Windsor Farms, Richmond, Virginia:			
Land	\$22,706.58		
Office building	86,161.68		
Furnishings and decorations ..	2,205.41	\$111,073.67	
Walter Reed House, Belroi, Virginia		1,000.00	
TOTAL LAND AND BUILDINGS	\$112,073.67		
OFFICE FURNITURE AND EQUIPMENT			
Estimated insurable value at October 1, 1950 \$	5,353.11		
Purchased subsequent to October 1, 1950:			
Cost during fiscal year ended September 30, 1951	\$ 951.65		
Cost during fiscal year ended September 30, 1959	6,749.65	7,701.30	
TOTAL OFFICE FURNITURE AND EQUIPMENT	\$ 13,054.41		
TOTAL PLANT FUND ASSETS (Exhibit "A")	\$125,128.08		

FINANCIAL CONDITION

The financial condition of the Society at September 30, 1959, is shown in the Balance Sheet, Exhibit "A", on the accrual basis. A summary of the financial condition at September 30, 1959, is presented as follows in comparison with the two preceding years:

	1959	SEPTEMBER 30, 1958	1957
ASSETS			
Cash	\$ 66,776.81	\$ 54,466.41	\$ 83,218.96
Accounts receivable ..	8,162.58	6,726.18	6,221.21
Investments	20,453.00	19,953.50	38,777.62
Land, buildings and equipment	125,128.08	132,469.75	68,892.68
TOTALS—			
ALL FUNDS ..	\$220,520.47	\$213,615.84	\$197,110.47

LIABILITIES, SURPLUS AND FUND BALANCE

Liabilities:

Accounts payable \$	3,857.29	\$ 3,064.80	\$ 2,661.18
Surplus:			
General fund	91,535.10	78,081.29	125,556.61
Fund balance:			
Plant fund	125,128.08	132,469.75	68,892.68

TOTALS—

ALL FUNDS ..	\$220,520.47	\$213,615.84	\$197,110.47
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Analyses and explanations of the more important balance sheet accounts follow:

CASH—\$66,776.81

Recorded cash receipts were accounted for by deposits in the banks and disbursements were supported by properly signed and endorsed paid checks. Balances on deposit at September 30, 1959, were verified by direct correspondence with the banks as follows:

First and Merchants National Bank—Checking account	\$34,368.76
Bank of Virginia—Savings account	8,485.30
Southern Bank and Trust Company—Savings account	1,174.23
Franklin Federal Savings and Loan Association—Savings account	11,343.85
Richmond Federal Savings and Loan Association—Savings account	11,404.67
TOTAL	\$66,776.81

INVESTMENTS—\$20,453.00

United States Savings Bonds, as shown in Schedule 1, were verified by inspection of the securities held in a deposit box at First and Merchants National Bank, Richmond, Virginia. They are shown in the balance sheet at their current redemption value.

PLANT FUND ASSETS—\$125,128.08

Details of the plant fund assets are shown in Schedule 2. No indebtedness against these assets was disclosed by the records. During the fiscal year ended September 30, 1959, \$26,983.73 was expended in the completion of the new office building located in Windsor Farms, Richmond, Virginia, and in furniture and equipment. Real estate located at 1105 West Franklin Street, Richmond, Virginia, and office furniture were sold during the year for \$23,715.15 net. This property was carried on the books at a cost of \$34,325.40.

OPERATIONS

The income, expenses and capital outlays for the fiscal year ended September 30, 1959, are shown in Exhibit "C", prepared on the cash receipts and disbursements basis. A summary of income, expenses and capital outlays for the current year are compared with that of the two preceding years as follows:

	FISCAL YEAR ENDED		
	SEPTEMBER 30,		
	1959	1958	1957
INCOME			
Membership dues	\$ 57,935.24	\$ 54,354.49	\$53,363.44
Medical monthly publication	46,630.67	43,045.56	34,314.78
Other operating income	1,439.71	6,499.76	2,293.25
TOTAL	\$106,005.62	\$103,899.81	\$89,971.47
EXPENSES			
Executive office	\$ 89,745.05	\$ 81,774.12	\$71,960.49
Public relations department	681.59	820.23	510.38
TOTAL	\$ 90,426.64	\$ 82,594.35	\$72,470.87
OPERATING INCOME OVER EXPENSES			
	\$ 15,578.98	\$ 21,305.46	\$17,500.60
OTHER INCOME			
Proceeds from sale of property	23,715.15	—	—
TOTAL	\$ 39,294.13	\$ 21,305.46	\$17,500.60
CAPITAL OUTLAY	26,983.73	65,008.01	25,831.58

INCOME OVER (UNDER) EXPENSES AND CAPITAL			
OUTLAY	\$12,310.40	(\$43,702.55)	(\$8,330.98)

IN GENERAL

The bookkeeping records were found to have been kept in a satisfactory manner.

Insurance in force at September 30, 1959, determined from policies on file, was as listed below:

FIRE AND EXTENDED COVERAGE

Office furniture and fixtures	\$14,000.00
Building—Windsor Farms, Richmond, Virginia	64,000.00
Walter Reed House, Belroi, Virginia	2,000.00

LIABILITY—OWNER'S, LANDLORD'S AND TENANT'S

Bodily injury	\$25,000.00-\$50,000.00
Property damage	5,000.00

FIDELITY BONDS

Executive Secretary-Treasurer	\$ 5,000.00
Secretary	5,000.00

INVESTMENT BONDS September 30, 1959

					SCHEDULE 1			
		NO. BONDS	DATED	DUE	VALUE AT	COST	VALUE AT	VALUE AT
BONDS	SERIES				MATURITY		9-30-58	9-30-59
U. S. Savings	F	6	10-1-49	10-1-61	\$ 3,000	\$ 2,220.00	\$ 2,661.00	\$ 2,742.00
U. S. Savings	J	13	5-1-55	5-1-67	6,500.00	4,680.00	4,933.50	5,057.00
U. S. Savings	J	11	12-1-55	12-1-67	11,000.00	7,920.00	8,250.00	8,448.00
U. S. Savings	J	1	12-1-55	12-1-67	500.00	360.00	375.00	384.00
U. S. Savings	J	1	1-1-56	1-1-68	1,000.00	720.00	750.00	768.00
U. S. Savings	J	2	2-1-56	2-1-68	2,000.00	1,440.00	1,500.00	1,536.00
U. S. Savings	J	2	7-1-56	7-1-68	2,000.00	1,440.00	1,484.00	1,518.00
TOTAL					\$26,000.00	\$18,780.00	\$19,953.50	\$20,453.00

(Exhibit "A")

Fluoridation Again

DURING THE PAST fifteen years about 1800 American communities with approximately 35,000,000 inhabitants have adopted fluoridation of their public water supplies as a means of lessening dental decay. Similar programs are in operation in 20 foreign countries. An additional seven million Americans in approximately 1900 communities drink water containing at least 0.7 parts per million of fluoride, which occurs naturally in these areas. Fluoridation is approved by every major scientific organization in this country qualified to pass on the merits or demerits of adding fluorides to drinking water.

With such widespread use and well qualified backing it would seem that fluoridation has won general acceptance. A closer look, however, shows that such is not the case. The larger cities have been generally favorable to fluoridation but the smaller towns have held back. Sixty-six per cent of American cities with populations in excess of a half million have fluoridation programs but only 17 per cent of communities with populations of 2,500 to 10,000 have adopted this method and a bare 5 per cent of the smaller towns have this safeguard.

More disturbing is the fact that about 75 cities have discontinued fluoridation during the past five years. This change of heart is the result of a militant minority that recently has formed two national organizations opposed to fluoridation. These groups, consisting chiefly of laymen, publish periodicals and contribute frequent antifluoridation articles of an emotional nature to national magazines.

Virginia has had more than its share of fluoridation controversies. Charlottesville and Blackstone began fluoridation only to abandon it as the result of local opposition. Petersburg passed the necessary ordinance, installed the equipment and then rescinded its action before fluoridation was actually begun as the result of objections raised by some of its citizens.

The City of Richmond began fluoridation of its water supply in 1952. Despite the lack of any evidence of harm resulting from the addition of 1 ppm. to its water, an antifluoridationist this fall persuaded a Councilman to introduce a rescinding ordinance which failed to pass by the narrowest of margins. The final ballot was four to four with five votes required to rescind the former ordinance. Close as this vote was, it represented a last minute change of heart on the part of the four Councilmen who voted to continue fluoridation, for prior to the hearing only one of the nine Councilmen stated he would support fluoridation but when the time came he was out of town and unable to attend the meeting.

The antifluoridation arguments advanced at this hearing followed the usual pattern. Much was made over the fact that several Richmond physicians and dentists intimated that fluoridation could have harmful effects. One speaker stated the program increased dental decay and that was why doctors and dentists favored it. Another stated that nationwide fluoridation was really a conspiracy on the part of the "Aluminum Trusts" to enable them to dispose of a by-product in the manufacture of their wares. One speaker said fluorides were used by the Russians to brain wash their subjects and suggested that the same sort of thing may be taking place in this country.

The fluoridation program was called communistic and also dictatorial. A package of rat poison containing fluoride was entered as evidence. One speaker stated that addition of a drug to his drinking water conflicted with the teaching of his church. A frequent objection raised was that the program violated constitutional rights. The fear expressed most often by the antifluoridationists concerned the danger of adding a drug, about which they said little was known, to the drinking water of a community. The opponents of fluoridation did not realize, or chose to overlook, the high concentration of fluoride that occurs naturally in many parts of Virginia. For over three centuries our forebears have drunk water from sources that often contained many times the amount of fluoride that is added to our drinking water. The artificially fluoridated water never contains over 1 ppm. and frequently has a slightly lower concentration.

Chesterfield county has 3.6 ppm. of fluoride in wells in the neighborhood of Chester. Wells in Henrico county vary in fluoride content from 0.5 to 6.88 ppm. Wells in Lancaster county contain natural fluorides to the extent of 3.6 ppm. Nansemond county has high levels which vary from 3.6 to 6.4 ppm. Northumberland county has almost as high a level while Southampton, with 7.2 pp., has the highest known reading in the State of Virginia. This means, for example, that fluorides occur naturally in some wells near Franklin, Virginia, in a concentration more than seven times the maximum found in artificially fluoridated water. If drinking water containing fluoride in 1 ppm. is hazardous, why has not some demonstrable harm resulted to the untold thousands of Virginians who have taken many times this concentration throughout their entire lives?

Compare these high but innocuous concentrations with the following news item which appeared on page 1 of the May 30, 1959, issue of the American Capsule News, a Washington, D. C., publication which follows the antifluoridation line and also advertises a gadget to take this chemical out of water.

"In Sheboygan (Wisconsin) the first city to be fluoridated (12 years ago) reports that come to us are heartrending. Middle aged people are old; young people are middle aged. The fluoride shuffle is a common thing among pedestrians. The undertaking business is reported flourishing. We have been unable to procure the death statistics for the last 15 years. Our correspondents there say it would be dangerous to try it. The Congressman from that district (Van Pelt) promised to get it for us but when we tried to pick it up he acted like we had leprosy."

And all this havoc by just adding 1 ppm. of fluoride. How silly can one become?

Twenty-nine Virginia communities have adopted fluoridation. Alexandria, Danville, Fredericksburg, Lynchburg, Newport News, Norfolk, Portsmouth, Richmond, Roanoke, Winchester and Blacksburg receive the benefits of artificial fluoridation. These, as well as the smaller towns in Virginia, which have adopted this program, will have to be on a twenty-four hour alert for the antifluoridation groups are constantly probing for a weak spot in the fluoridationist's armour and doubtless will continue to do so until something new turns up to divert their interest.

HARRY J. WARTHEN, M.D.

Society Activities . . .

The Virginia State Orthopedic Society

Had its annual business meeting and luncheon at the Hotel Roanoke on October 5th, with Dr. George Hollins presiding. Dr. William Deyerle, Richmond, was elected president; Dr. Phil C. Trout, Roanoke, vice-president; and Dr. Ernest B. Carpenter, Richmond, secretary-treasurer.

The annual scientific meeting will be held in Richmond in the spring of 1960.

Norfolk County Medical Society.

Dr. W. W. Taylor has succeeded Dr. K. K. Wallace as president of this Society. Dr. John Franklin is president-elect; Dr. Donald Faulkner, vice president; Dr. William Hotchkiss, treasurer; Dr. Meyer I. Krischer, recording secretary; Dr. George Elsassser, corresponding secretary; and Dr. R. B. Grinnan, local councillor.

Washington Dermatological Society.

Dr. June Carol Shafer, Arlington, has been named chairman of the Washington, D. C. Dermatological Society. Meetings are held in Washington on the fourth Thursday of each month, October through May.

Roanoke Academy of Medicine.

Dr. William H. Kaufman has been installed as president of the Academy. Dr. John A. Martin is chairman of the executive committee, with other members being Drs. Rufus P. Ellett, Jr., Richard H. Fisher, John E. Gardner, Hugh H. Hagan, Jr., William F. Hatcher, Charles A. Hefner, John A. Martin, Louis P. Ripley, and W. Conrad Stone.

Committee chairmen are Dr. A. P. Jones, judicial and ethics; Dr. W. R. Whitman, Jr., public relations; Dr. Edwin J. Palmer, program; Dr. P. A. Wallenborn, Jr., legislative; Dr. Phillip C. Trout, medical service; Dr. Homer Bartley, membership; Dr. H. B. Stone, Jr., mediation; Dr. William F. Weller, house; Dr. Robert L. A. Keely, liaison civil

defense; Dr. H. G. Lockhard, Jr., blood bank; and Dr. R. F. Bondurant, library.

Richmond Academy of General Practice.

At the meeting of the Academy on October 20th, there was a Symposium on Hypertension, with the following participants: Dr. David W. Richardson, VA Hospital, Richmond; Dr. Nathan Asbell, Camden County Hospital, Lakeland, New Jersey; Dr. H. Page Mauck, Jr., Medical College of Virginia; and Dr. Dale S. Raines, Northwestern University School of Medicine, Chicago.

Blue Ridge Academy of General Practice.

Dr. Henry T. Brobst, Roanoke, was the speaker for the meeting of the Academy held in Roanoke on October 3rd. His subject was Minor Hand Injuries and Infections.

Williamsburg-James City Medical Society.

Dr. Winfred Overholser, superintendent of St. Elizabeth's Hospital, Washington, D.C., was guest speaker at the dinner meeting of this Society held on October 14th. The meeting was in honor of Dr. Joseph E. Barrett. He was a former president of the Society and superintendent of the Eastern State Hospital, recently retired, and moved to Tennessee.

Johnston-Willis Medical Society.

Dr. H. L. Denoon, Nassawadox, has been re-elected president of this Society.

The Mid-Tidewater Medical Society

Held its quarterly meeting at Urbanna Lodge on October 28th. The following scientific program was presented: Hypercortisonism—A Problem of Continued Steroid Administration, by Dr. Barry Decker; Impaired Adrenal Function and Diffuse Vasculitis—Problems Resulting from Discontinuing Steroids by Dr. Elam C. Toone, Jr.; and Some Phase of Rehabilitation by Dr. H. W. Park. All speakers are from Richmond.

Current Currents

A STATEWIDE MILK CONTROL LAW will quite likely be sought during the next session of the General Assembly. Responsibility for enforcement of the law would be assigned the State Department of Health. This should be of particular interest to physicians since The Medical Society of Virginia has twice adopted resolutions bearing on the subject.

The House of Delegates, in 1956, adopted a resolution which recognized the fact that the sanitation of milk is a Public Health responsibility and called for the adoption of a uniform ordinance by each local Public Health jurisdiction within the Commonwealth. The ordinance recommended by the State Department of Health was suggested as a standard.

In 1958, the Council passed a motion which reaffirmed the 1956 resolution and placed the Society on record as opposing supervision of health matters by any agency other than the Department of Health.

TEN NEW AWARDS for extramural research in nursing have been announced by the Surgeon General of the U. S. Public Health Service. The new awards, totaling approximately \$250,000, bring to 73 the number of nursing research grants awarded since the Nursing Research Grants Program was established in 1955. Awards to persons outside the Public Health Service for studies to discover new knowledge about nursing and improved patient care now total approximately \$3,000,000. The recent awards are for studies on cardiac and psychiatric nursing, nursing education and the educational and socio-economic factors affecting nurses.

HONOLULU will be the scene of the 104th Annual Meeting of the Hawaii Medical Association, and members of The Medical Society of Virginia have been invited to attend this first meeting under statehood. The meeting will be held on May 12-15, 1960, and an exceptional program of scientific and social events is being arranged. At least one state medical society is arranging a special jet plane flight to the Islands.

DO YOU KNOW that riders of the spectacular and romantic Pony Express who, in 1860 and 1861, carried the mail between Missouri and California, were teenagers weighing less than 125 pounds.

Shakespeare presented eight doctors as characters in his plays. They include Dr. Caius in *The Merry Wives of Windsor*, Gerard de Narbon in *All's Well That Ends Well*, the physician in *King Lear*, the two doctors in *Macbeth*, Cerimon in *Pericles*, Cornelius in *Cymbeline*, and Dr. Butts in *Henry VIII*.

THE TAX COURT of the United States has handed down two decisions of interest to physicians. The first decision, as reported by the Washington Report on the Medical Sciences, holds that there is no reason why a woman who makes herself extremely useful in her husband's medical practice should not be permitted to be his professional partner, for tax purposes, even though she is not an M.D. The other decision rejects the argument of the loophole-seeking patient that he did right in setting down dancing instructions under the head of "medical expenses" because his physician said the ballroom might furnish mild exercise.

The background of the latter case is particularly interesting. The patient was advised to take up dancing and table tennis to strengthen abdominal muscles following a series of operations. The Internal Revenue disallowed claims for deductions, as medical expenses, of over \$4,000 for dancing instructions for over a three-year period. The Court, in its decision, said among other things "we think it can be said here that dance lessons do not constitute medical care within the intendment of the (Tax) statute." It also pointed out that instructresses in the dance studio had no training in physical or psychiatric therapy.

The Court went on to say that "It is not at all unusual for doctors to recommend to a patient a course of personal conduct and personal activity which, if pursued, will result in health benefits to the patient, but the expenses therefor are generally to be considered ordinary personal expenses. . . ."

LATEST FIGURES from the Social Security Administration show that in August, 1959, payments to beneficiaries of Old Age, Survivors and Disability Insurance approximated \$822 million. Checks are being mailed monthly to 13,396,000 persons—11 million of whom are aged 62 and over. Some 300,000 in the 50-64 age group are receiving disability payments. At this rate, annual payments will total \$9,864 million.

THE AGE-50 RULE in disability insurance may soon be liberalized. According to a report by the Washington Report on Medical Sciences, the Eisenhower Administration is thinking of asking Congress to take such action. It will be recalled that AMA strenuously, but vainly, fought the bill which authorized workers to apply for and receive disability benefits at age 50 instead of waiting until their 65th birthday. It was argued that if the age floor was lowered, sooner or later it would be abolished.

THE NEXT FEW YEARS, according to predictions by U.S. Health Officials and Physicians, will find hospital costs soaring, doctors' fees holding steady and medical insurance growing until just about everyone is covered for every kind of illness and accident. The predictions were reported by "Life" in the concluding article of its four part series on the American doctor.

News Notes

New Members.

Since the list published in the November issue of the Monthly, the following have been admitted into membership in The Medical Society of Virginia:

Olav H. Alvig, M.D., McLean
Robert Francis Baxter, M.D., Grundy
Delos White Boyer, M.D., Danville
Charles Dick Burch, M.D., Richmond
Frances Jones Dillard, M.D., South Boston
Keith Castleton Edmunds, M.D., Roanoke
Joseph Charles Evers, M.D., McLean
William Ferguson, M.D., Crittendon
William Joseph Gazale, M.D., Fairfax
John Shelton Horsley, III, M.D., Richmond
John Jofko, M.D., Roanoke
Werner Krebsner, M.D., McLean
Elisabeth S. Lee, M.D., Hollins
Chalmers Albert Loughridge, M.D., Alexandria
James Bell Magee, M.D., Charlottesville
Donald H. McNeill, Jr., M.D., Front Royal
Chimer Davis Moore, Jr., M.D., Wytheville
Joseph E. Shuman, M.D., Arlington
John Miles Stirewalt, M.D., Waynesboro
George Szele, M.D., Annandale
Robert Owen Williams, M.D., Roanoke

Golf Tournament.

Dr. E. J. Keffer, Jr., Roanoke, has won the 1959 golf championship of The Medical Society of Virginia. Firing a one under par 70 over the difficult Roanoke Country Club Course, Dr. Keffer finished first in the field of 50 and was presented the trophy sponsored by the medical societies of Northern Virginia.

Finishing second with a medal score of 77, was Dr. J. E. George, Roanoke.

Winners in the low net bracket were Dr. J. T. Jackson, Leesburg; Dr. A. Epes Harris, Blackstone; Dr. John E. Gardner, Roanoke; Dr. Charles W. Richardson, Hillsville, and Dr. Frank Taylor, Roanoke.

Correction for November Issue.

In the article on The Biological and Medical Significance of Copper by Dr. Galen L. Wampler (November issue, Virginia Medical Monthly), please note the following correction: On page 641, column 1, Item E—in this and all instances thereafter, the

symbol Δ should have been lower case delta as in Formula II.

Portrait of Dr. Barrett.

An oil portrait by Captain Harold Ledyard of Dr. Joseph E. Barrett has been presented to the Eastern State Hospital by employees and friends. Dr. Barrett resigned as superintendent of the Hospital and has assumed his duties as clinical director of the Eastern State Hospital of Knoxville, Tennessee.

The Soroptomist Club of Williamsburg adopted a resolution of thanks to Dr. Barrett in which they "extend to Dr. Joseph E. Barrett our grateful thanks, and though we regretfully relinquish the associations, we enthusiastically wish him Godspeed in his new position, and lovingly acknowledge that his loss of the people of the Commonwealth of Virginia is a gain for the people of the State of Tennessee."

Dr. John R. Kite,

Norfolk, has been elected as president of the Virginia Division of the American Cancer Society.

Members of Flying Club.

Two Richmond physicians, who have their own airplanes, are members of the Flying Physicians Association, which has a membership of approximately 1500 throughout the nation. They are Dr. Luther C. Brawner and Dr. Elmer S. Robertson. Promotion of general aviation safety is one of the main objectives of the organization. It is now organizing a disaster program which would enable these physicians to fly in their own planes to the scene of a major disaster if called on by a defense agency.

There are about nine Virginia physicians who are members of this Association.

Dr. Charles B. Marshall,

Martinsville, has been elected president of the Martinsville-Henry County Unit, Virginia Division, of the American Cancer Society.

Dr. A. Ray Dawson

Has been appointed acting chief of the department of physical medicine and rehabilitation of the Medical College of Virginia. He assumed administra-

tive duties of Dr. Herbert W. Park who had requested relief in order to devote more time to his work as professor of physical medicine and rehabilitation.

The interim appointment will not affect Dr. Dawson's present duties as chief of the service of physical medicine and rehabilitation at McGuire Veterans Administration Hospital.

Dr. Ennion S. Williams,

Richmond, has been elected president of the Association of Life Insurance Medical Directors of America.

New Medical Journal.

The Society of Nuclear Medicine announces the forthcoming publication of its official organ, The Journal of Nuclear Medicine. The first quarterly issue will appear during the month of January 1960. The editorial content of the Journal will be directed towards those members of the medical and allied professions who are interested in the diagnostic and therapeutic application of radioisotopes and in human radiobiology. Dr. George E. Thoma, St. Louis, Missouri, is editor.

The Mid South Postgraduate Medical Assembly

Will be held at the Peabody Hotel, Memphis, Tennessee, February 9-12, 1960.

The New Orleans Graduate Medical Assembly

Will be held March 7-10, 1960, with headquarters at the Roosevelt Hotel. The 16th Annual Clinical Tour to the West Indies will begin on March 12th.

Further information may be obtained from The New Orleans Graduate Medical Assembly, 1430 Tulane Avenue, New Orleans 12, Louisiana.

Obituaries

Dr. Edmund Madison Chitwood, Sr.,

Prominent physician of Wytheville, died October 22nd, at the age of seventy. He graduated from the Baltimore Medical College in 1912 and began his practice in Wythe County forty-seven years ago. Dr. Chitwood established the town's first hospital

June Miami A.M.A. Meeting.

The widow of a member of The Medical Society of Virginia, now a travel consultant, will arrange a Virginia sleeping-car from Richmond with open return. Travel to pre-A.M.A. allied meetings also arranged. Post-convention cruises to Nassau and/or Havana by steamer or air can be included. Write Box "T", care the Virginia Medical Monthly, for information. (*Adv.*)

For Sale.

Westinghouse Superficial Therapy Unit. Model 270-100 KV Dermadex. Model 280 Superficial Theraflex Tube. Arm with Mobile Protective Screen. Purchased in 1957 for \$3,483.00, now priced at \$1,000.00. Owner deceased. For further information, contact Mrs. V. Harwood Link, 206 West Irvin Avenue, Hagerstown, Maryland. (*Adv.*)

Residency Available

In Physical Medicine and Rehabilitation. Affiliated with Medical College of Virginia; our residents have some of their training there. Salaries: Career, \$6505.00 to \$9808.00 p.a.; Regular, \$3250.00 to \$4165.00 p.a. Apply: Manager, Veterans Administration Hospital, Richmond 19, Virginia. (*Adv.*)

Neurology Residencies.

Career and regular, available on active Service. Two neurologists and attending neurologists on staff. Affiliated with two medical schools. Opportunity for teaching, research, and diversified program. Apply: Manager, Veterans Administration Hospital, Richmond 19, Virginia. (*Adv.*)

For Sale.

Late model General Electric Vertical Fluoroscope. Contact Mrs. Sheppard K. Ames, Cape Charles, Virginia. Telephone number 108. (*Adv.*)

which is now the Chitwood Memorial Clinic. He was a N.&W. surgeon and served as coroner for a number of years. Dr. Chitwood was active in Masonic circles and was also a member of the Elks Club. He had been a member of The Medical Society of Virginia for forty-six years.

Dr. Chitwood is survived by his wife and two sons—Dr. W. R. Chitwood of Wytheville and Dr. E. M. Chitwood, Jr., of Pulaski.

Dr. Hubbard Corbin Padgett,

Roanoke, died October 31st of injuries received when he was struck by a car the week before. He was seventy-one years of age and graduated from the Medical College of Virginia in 1913. Dr. Padgett had practiced in Roanoke for about forty years. He was leaving his office when he was struck down by a hit-and-run driver. Dr. Padgett had been a member of The Medical Society of Virginia for forty-one years.

His wife and a daughter survive him.

Dr. William Latane Flanagan,

Christiansburg, died October 12th. He was a native of Fluvanna County and thirty-one years of age. Dr. Flanagan graduated from the Medical College of Virginia in 1953. He was a member of The Medical Society of Virginia. A daughter survives him.

In Memoriam—Dr. Pitt.

The number of his days on this earth were 79 years, 8 months and 26 days. He did not evade the proffered cup of the Angel of Death. In conformity with his way of life he submitted to those eternal decrees uncomplainingly and with dignity. During the night of July 10, 1959, he was amongst the immortals. When his housekeeper came to work that morning Dr. Pitt was not up and about as was his custom, and upon calling she received no response from him. On further solicitation she found him lying in bed, the cover neatly folded as though someone had tucked him away for a night's repose. He died quietly, apparently, sometime soon after retiring. He lived alone and the exact hour was not discernible.

Dr. Cullen Pitt lived quietly, serenely, unhurriedly, simply, lending a sympathetic ear always to those in trouble but never complaining of that world within himself, nor of that boundless universe surrounding him, about which he was ever eager and anxious to know more.

He was born in Richmond, Virginia, on November 14, 1880. His father was Dr. Robert H. Pitt, a long time owner and editor of the Baptist denominational paper of the State of Virginia, "The Religious Herald." His mother was Anne Robertson Pitt. His preparation for college was obtained at the Nolley's Preparatory School of Richmond. From that school he entered Richmond College and was graduated with a B.A. Degree before he was twenty years of age. The following year he was awarded his Master of Arts Degree from that same institution. He received his M.D. Degree in 1905 from the University College of Medicine, Richmond. He interned

at the old City Hospital of Richmond, before entering upon the practice of his chosen profession. From this you will observe that Dr. Pitt wasted neither energy, nor his time. He was almost unceasingly busy; but he never hurried; nor did he become depressed if his achievements were less than his expectations.

Many of the qualities of his character were unusual. He did not experience mood swings. He was always possessed of an even temper. His most intimate friends probably never heard him swear, nor did he indulge in the use of any other language which might have been objectionable. He never spoke unkindly of other people. He did not engage in the institution of comparison of physicians to the injury of some member of his profession. He never spoke in grandiose terms of himself. He never spoke regretfully of the past, nor apprehensively of the future. He possessed courage which enabled him to ferret out the truth and to live without fear of tomorrow and without troublesome regret of yesterday. He lived honorably, wholesomely, and usefully. A classical illustration of Dr. Pitt's standing for and living up to his convictions is as follows. During World War II, injuries such as sprained ankles were often novacained and the soldier was sent back to duty. As an outgrowth of that experience the athletic departments of many schools emulated that practice in order to keep a key athlete in the game. Dr. Pitt never subscribed to such procedure. He made certain that he wasn't alone in his convictions. He corresponded with the athletic departments of the leading schools of the country and to his edification he found justification in his practices. It is extremely doubtful that he ever had to urge himself to walk the path of rectitude and to avoid the limiting avenues of allurements. Dr. Pitt was an honest man, with himself and therefore, also, with others. He was motivated by that persistent application to duty that constitutes diligence. He deleted from his book of memory in his early youth such words as pettiness, selfishness, greed, avarice, suspiciousness and substituted for these, cultivating patience, forbearance, sympathy, love and understanding. He was always doing good and dispensing cheer every day of his life. The night before he died he had taken watermelons to his little nieces. When his brother's wife passed away he took into his home a niece and nephew and nurtured them as though they were his own. He supplied their every need and saw that they enjoyed every advantage that they had been deprived of by their misfortune.

Dr. Pitt maintained membership in the Richmond Academy of Medicine, the Tri-State Medical Society, The Society of Life Insurance Medical Directors, The Medical Society of Virginia, the Southern Medical Association, and the American Medical Association. He was Assistant Medical Director of the Atlantic Life Insurance Company from 1925 to 1940, and Medical Director from 1940 to 1956. He was physician to Westhampton College in 1913—and in 1914 became physician to the University of Richmond from which he retired in 1958. During the 44 years which he was physician to the University students, he had their interest uppermost in his mind. He was always striving to improve the medical facilities of the University and his services to the student body. It is said that during his tenure of service no student ever had a ruptured appendix. It was through his influence and efforts

that the newest dormitory on the campus has one of the most modern infirmaries of any college in the country. For a brief period after his father's death he was editor of the Religious Herald.

Although Dr. Pitt was modest and self-effacing, he would not permit his modesty to prevent him from doing his duty. He had many friends who regarded his opinion highly. This was evidenced by the fact that he was elevated to the Presidency of the Society of Medical Life Insurance Directors.

His home life was as ideal as his professional life was splendid. In 1913 he was married to Edith Watkins, a member of one of the pioneer families of the Commonwealth of Virginia. She predeceased him by a year. He is survived by two brothers and several nieces and nephews.

The wisest of all men propounded the majestic and beautiful interrogatory and also answered it: "Seest thou a man diligent in his business? he shall stand before kings."

WILLIAM H. HARRIS, M.D.

JAMES T. TUCKER, M.D.

OSCAR L. HITE, M.D., *Chairman*

Dr. Stanley.

Dr. Thomas Eldridge Stanley was born in Hanover County, Virginia, August 23, 1908, and died June 3, 1959. He was the son of a distinguished general practitioner, and at an early age decided to follow in his father's footsteps in the practice of medicine. They both were greatly beloved physicians.

Tom Stanley was graduated from the Medical College of Virginia in 1932, served his internship in Norfolk, and returned to Hanover County to practice medicine. He was interested not only in his patients but in his community, serving for many years on the Hanover County School Board, of which he eventually became Chairman.

During World War II he was anxious to serve his country in the armed services but was declared essential to his area. He stayed at home and was the only doctor in his community and the surrounding area. Needless to say, he was constantly in demand both day and night.

In 1946 Dr. Stanley was able to secure a young physician to take over his practice, which enabled him to go to the Newton D. Baker Veterans Administration Hospital in Martinsburg, West Virginia, for postgraduate work in internal medicine. He remained there until 1951, acting as assistant chief of the medical service for the last few years.

In October, 1951, he returned to Richmond to practice internal medicine as a member of the staff of St. Elizabeth's Hospital. In spite of his absence of five years, many of his old patients returned to him and he soon again had a large patient clientele. In spite of his large practice, he retained his interest in Hanover County, maintaining his affiliation with St. Peter's Methodist Church and other local community activities.

He was a member of the Richmond Academy of Medi-

cine, The Medical Society of Virginia, the Richmond Society of Internal Medicine, and the American Medical Association. He also maintained his membership in the Masonic Lodge at Mineral, Virginia.

In 1937 Dr. Stanley married Madalean Mundy who, along with their three children, survives him.

The medical profession of Richmond and Hanover County has lost a highly skilled and valuable member in Dr. Stanley's death. We who have known and loved him will always be grateful for the privilege of having worked with this dedicated, honest, and unassuming gentleman, for he was a gentleman in every sense of the word.

This committee recommends that a copy of this memorial be spread upon the minutes of the Richmond Academy of Medicine, and that a copy be sent to the Virginia Medical Monthly and to Dr. Stanley's family with our sincere sympathy.

DOUGLAS G. CHAPMAN, M.D.

VIRGIL R. MAY, JR., M.D.

GUY W. HORSLEY, M.D.

Dr. McGill.

At a special meeting of the Petersburg Medical Faculty, which was held on October 21, 1959, to express tribute to the memory of their late colleague, Dr. Elisha Leavenworth McGill, the following resolutions were read and unanimously adopted:

WHEREAS, God in His infinite wisdom has removed from our midst a true friend and loyal colleague, who faithfully served this city and Southside Virginia.

BE IT RESOLVED, that in the death of Dr. McGill, the profession has lost a valued associate and the community a useful and esteemed citizen, who had been a member of the Petersburg Medical Faculty for over fifty years.

Dr. McGill was born in Petersburg, on May 12, 1875. He was a graduate of the Physicians and Surgeons College of Medicine of Columbia University, New York. He served as a Captain in World War I and a valued member of the Draft Board during World War II.

Dr. McGill was a man of charming personality, conscientious and idealistic in the practice of his profession, and a true friend and honored member of the Petersburg Medical Faculty.

He was member of the Fourth District Medical Society and The Medical Society of Virginia as well as the American Medical Association.

Dr. McGill exemplified the outstanding characteristics of a general practitioner and surgeon and his loss will be felt by the whole community.

BE IT FURTHER RESOLVED, that these resolutions be spread on the minutes of the Faculty and that copies be sent to the family and to the Virginia Medical Monthly for publication.

WM. B. McILWAINE, III, M.D.

MEADE EDMUNDS, M.D.

HERBERT C. JONES, M.D.

Committee

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Q *But if I use KANTREX Injection, won't that help make bacteria resistant to it also?*

Next page, please

Q *But if I use KANTREX Injection, won't that help make bacteria resistant to it also?*

A A very good question, but it is reassuring to note that in almost two years of clinical use of KANTREX for the treatment of infections for which it is recommended, the emergence of KANTREX-resistant bacterial populations has not been a problem.

Q *My impression is that KANTREX is just another neomycin. Isn't that so?*

A Indeed not. The only thing KANTREX and neomycin have in common is a similar antimicrobial spectrum. Otherwise, they're very different: they have different chemical structures; the toxicity of KANTREX is "much less than that of neomycin"¹⁴; and clinically, KANTREX Injection is practical for systemic administration routinely, while neomycin is not.

Q *You mean that KANTREX Injection doesn't have the nephrotoxicity of neomycin?*

A Precisely. It's true that when KANTREX Injection is used, urinary casts — even slight albuminuria or microscopic hematuria — may appear, especially in poorly hydrated patients, but this does not reflect any progressive damage to the kidneys. These signs promptly disappear on adequate hydration or termination of therapy.

Q *Then why do you recommend reduced dosage in patients with renal impairment?*

A Because renal impairment causes an excessive accumulation of KANTREX in the blood and tissues, when usual doses are administered. Since KANTREX Injection is excreted entirely by the kidneys, renal impairment leads

to unnecessarily high and prolonged blood levels; and such excessive concentrations increase the risk of ototoxicity.

Q *Is that why we see reports of patients developing hearing loss during KANTREX Injection therapy?*

A Yes. A study of the few reported cases in which patients have suffered impaired hearing will show that in every instance they had pre-existing or concurrent renal impairment, yet received usual or excessive doses of KANTREX Injection. Dosage recommendations for KANTREX Injection emphasize that in patients with renal dysfunction, adequate serum levels can be achieved with a fraction of the dose suggested for patients with normal kidney function — with minimal risk of ototoxicity.

Q *Since urinary tract infections are often accompanied by renal impairment, does that mean I shouldn't use KANTREX Injection in such conditions?*

A Not at all. With proper precautions, KANTREX Injection is an excellent drug for the treatment of urinary tract infections, especially those due to *Proteus*, *A. aerogenes* and *E. coli*, even when renal impairment is present.

Q *What are the "proper precautions" in a patient with impaired renal function?*

A The package literature covers them in detail. First, the daily dose should be reduced in such a patient. Then, if he is going to receive KANTREX Injection for 7 days or more, a pre-treatment audiogram should be done, and it should be repeated at appropriate intervals during therapy. If tinnitus or subjective hearing loss develops, or if followup audiograms show significant loss of high frequency response, KANTREX therapy should be discontinued. However, therapy for 7 days or more

* Kanamycin sulfate injection (Bristol)

is seldom required because the clinical response to KANTREX Injection is so rapid.

Q *Why do you put so much emphasis on KANTREX's "rapid action"? Every antibiotic I've heard about is supposed to be "rapid acting."*

A There is such an abundance of clinical evidence about "rapid acting" that it takes KANTREX Injection out of the "supposed-to" class.^{1,2,3,7,8,9,11,15,16,19,21,22,26,29,32,33} Remember, the effectiveness of KANTREX Injection therapy can usually be appraised in 24 to 36 hours. That's definite evidence of rapid action. In fact, one group of investigators reported that "the rapidity with which bacteria are killed by this agent is reflected by the promptness of the clinical response."²⁹

Q *Does KANTREX Injection cause blood dyscrasias?*

A In extensive clinical and toxicity studies by numerous investigators, as well as almost two years of general use, not a single instance of such toxicity has been reported.

Q *Can I administer KANTREX Injection in any other way than by the intramuscular route?*

A Yes. While it's usually given intramuscularly, other routes are practicable: intravenous, intraperitoneal, by aerosol, and as an irrigating solution. Complete instructions are included in the package insert.

Q *So you think I ought to use KANTREX Injection as my first choice antibiotic in staph and gram-negative infections?*

A Yes — because all evidence to date indicates that it is bactericidal against a wide range of organisms...rapid acting...does not encourage development of bacterial resistance...is well tolerated in specified dosage...and has not caused any blood dyscrasias.

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Q *Why can't I use KANTREX Capsules for systemic medication?*

A Because there is only negligible absorption of KANTREX from the gastrointestinal tract.^{3,5,6,8,28,34} Thus, capsules cannot provide effective blood levels.

Q *Then what are KANTREX Capsules used for?*

A Preoperative bowel sterilization, and local treatment of intestinal infections due to kanamycin-sensitive organisms.

Q *I've been using neomycin for preoperative bowel sterilization. Why should I switch to KANTREX Capsules?*

A Because KANTREX has been rated as "superior to neomycin" for this purpose.⁶ It provides rapid and satisfactory control of coliforms, clostridia, staphylococci and streptococci; yeasts do not proliferate; stool concentrations of the drug are exceptionally high; and nausea, vomiting or intestinal irritation have not been observed.^{5,6}

Q *What advantages do KANTREX Capsules offer me in the treatment of intestinal infections?*

A A high degree of effectiveness against most of the pathogens responsible for such infections: *Salmonella*, *Shigella*, *Staph. aureus*, *E. coli* and *Endamoeba histolytica*. Moreover, their use has been "remarkably free of any side effects."³¹

KANTREX INJECTION

KANAMYCIN SULFATE INJECTION

INDICATIONS

Infections due to kanamycin-sensitive organisms, particularly staph or "gram-negatives": genito-urinary infections; skin, soft tissue and post-surgical infections; respiratory tract infections; septicemia and bacteremia; osteomyelitis and periostitis.

DOSAGE: INTRAMUSCULAR ROUTE

Recommended daily dose is 15 mg. per kg. of body weight, in 2 to 4 divided doses.

For intramuscular administration, KANTREX Injection should be injected deeply into the upper outer quadrant of the gluteal muscle.

TOXICITY

When the recommended precautions are followed, the incidence of toxic reactions to KANTREX is low. In well hydrated patients under 45 years of age with normal kidney function, receiving a total dose of 20 Gm. or less of KANTREX, the risk of ototoxic reactions is negligible.

In patients with renal disease and impaired renal function, the daily dose of KANTREX should be reduced in proportion to the degree of impairment to avoid accumulation of the drug in serum and tissues, thus minimizing the possibility of ototoxicity. In such patients, if therapy is expected to last 7 days or more, audiograms should be obtained prior to and during treatment. KANTREX therapy should be stopped if tinnitus or subjective hearing loss develops, or if audiograms show significant loss of high frequency response.

OTHER ROUTES OF ADMINISTRATION

KANTREX should be used by intravenous infusion only when the intramuscular route is impracticable. KANTREX can also be employed for intraperitoneal use, aerosol treatment, and as an irrigating solution. See package insert for directions.

PRECAUTIONS

Use of antibiotics may occasionally result in overgrowth of non-sensitive organisms. If superinfection appears during therapy, appropriate measures should be taken.

SUPPLY

Available in rubber-capped vials as a ready-to-use sterile aqueous solution in two concentrations (stable at room temperature indefinitely):

KANTREX Injection, 0.5 Gm. kanamycin (as sulfate) in 2 ml. volume.

KANTREX Injection, 1.0 Gm. kanamycin (as sulfate) in 3 ml. volume.

CAPSULES

(for local gastrointestinal therapy; not for systemic medication)

INDICATIONS AND DOSAGE

For preoperative bowel sterilization: 1.0 Gm. (2 capsules) every hour for 4 hours, followed by 1.0 Gm. (2 capsules) every 6 hours for 36 to 72 hours.

For intestinal infections: Adults: 3.0 to 4.0 Gm. (6 to 8 capsules) per day in divided doses for 5 to 7 days. Infants and children: 50 mg. per kg. per day in 4 to 6 divided doses for 5 to 7 days.

PRECAUTION

Preoperative use of KANTREX Capsules is contraindicated in the presence of intestinal obstruction. Although only negligible amounts of KANTREX are absorbed through intact intestinal mucosa, the possibility of increased absorption from ulcerated or denuded areas should be considered.

SUPPLY

KANTREX Capsules, 0.5 Gm. kanamycin (as sulfate), bottles of 20 and 100.

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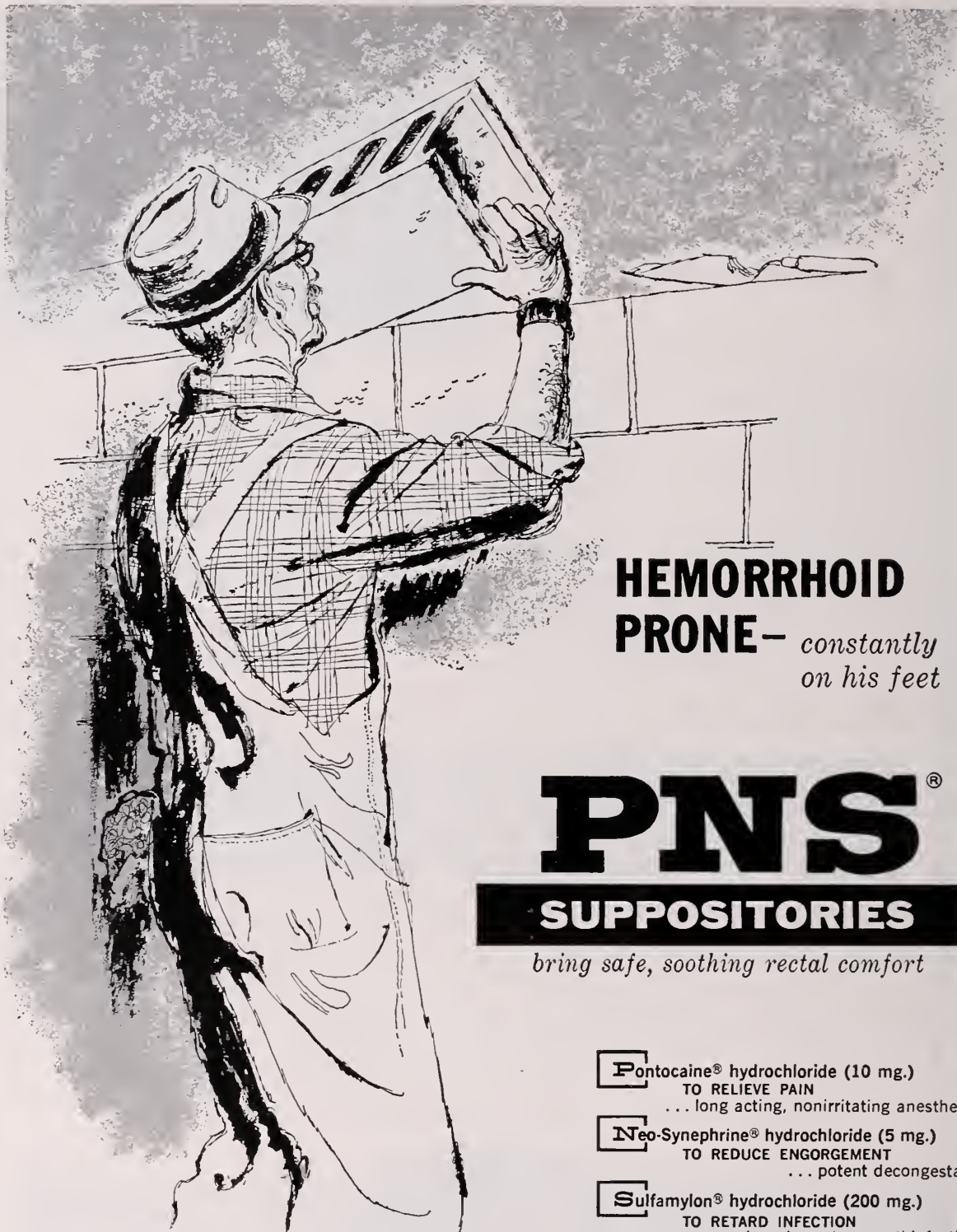
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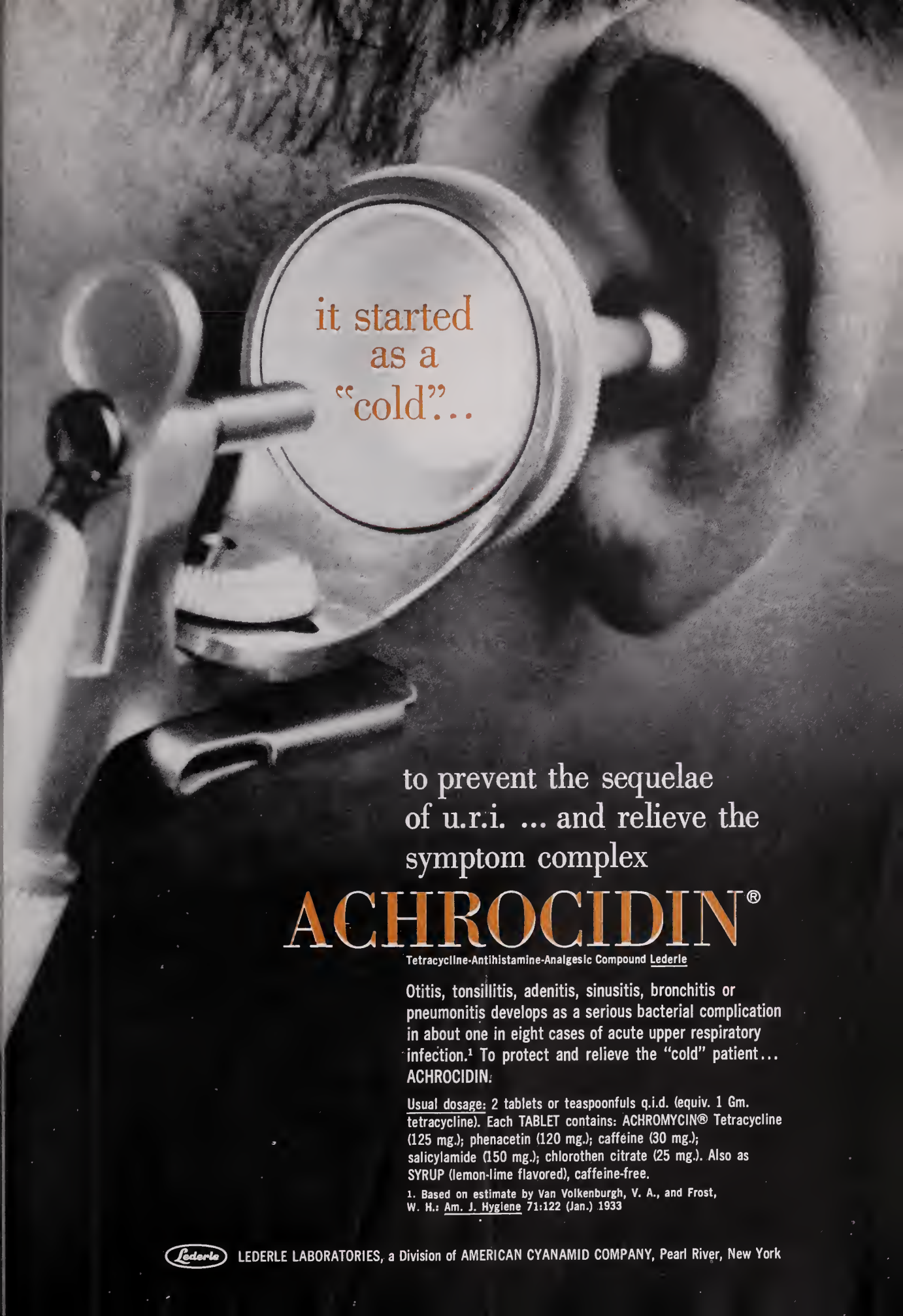
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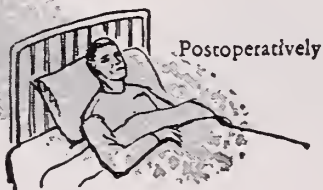
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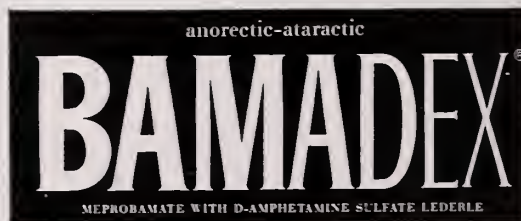
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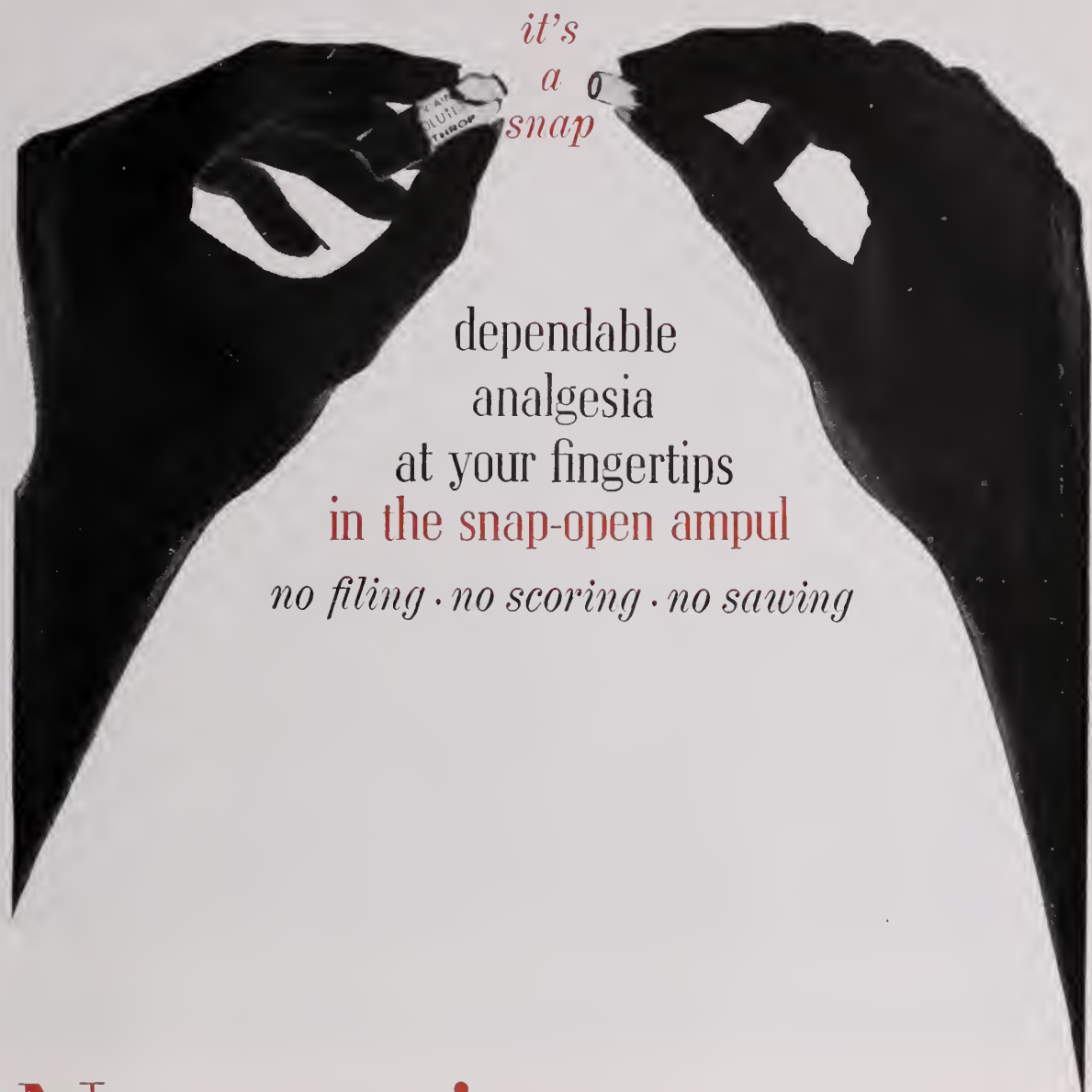


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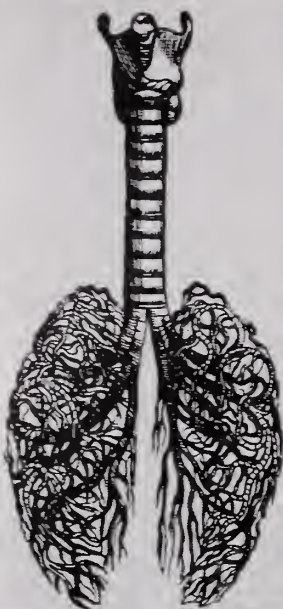


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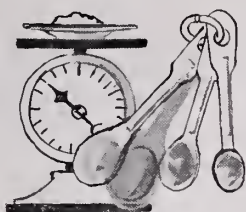
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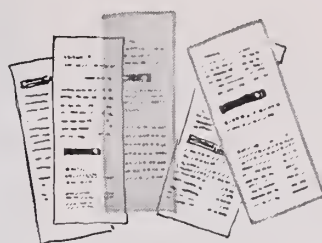
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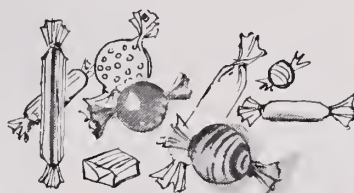
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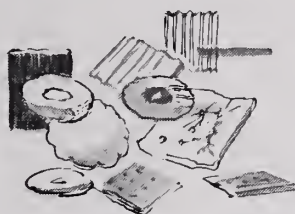
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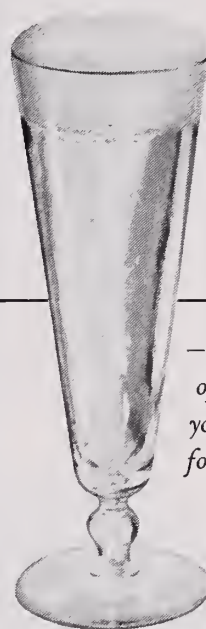
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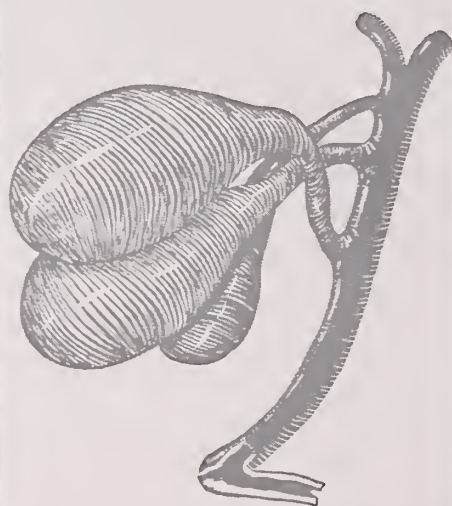
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(1) Beckman, H.: *Drugs: Their Nature, Action and Use*, Philadelphia, W. B. Saunders Company, 1958, p. 425.
(2) *Biliary Tract Diseases*, M. Times 85:1081, 1957.

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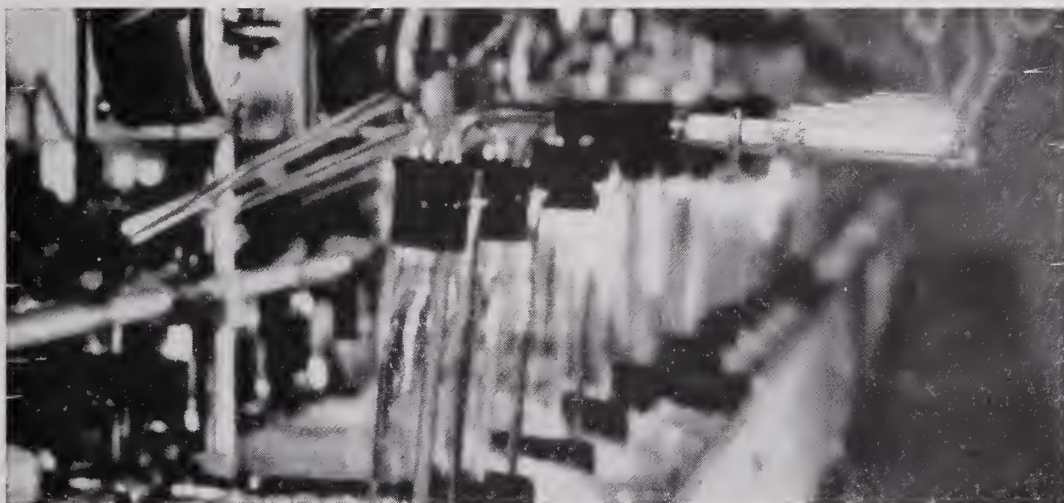
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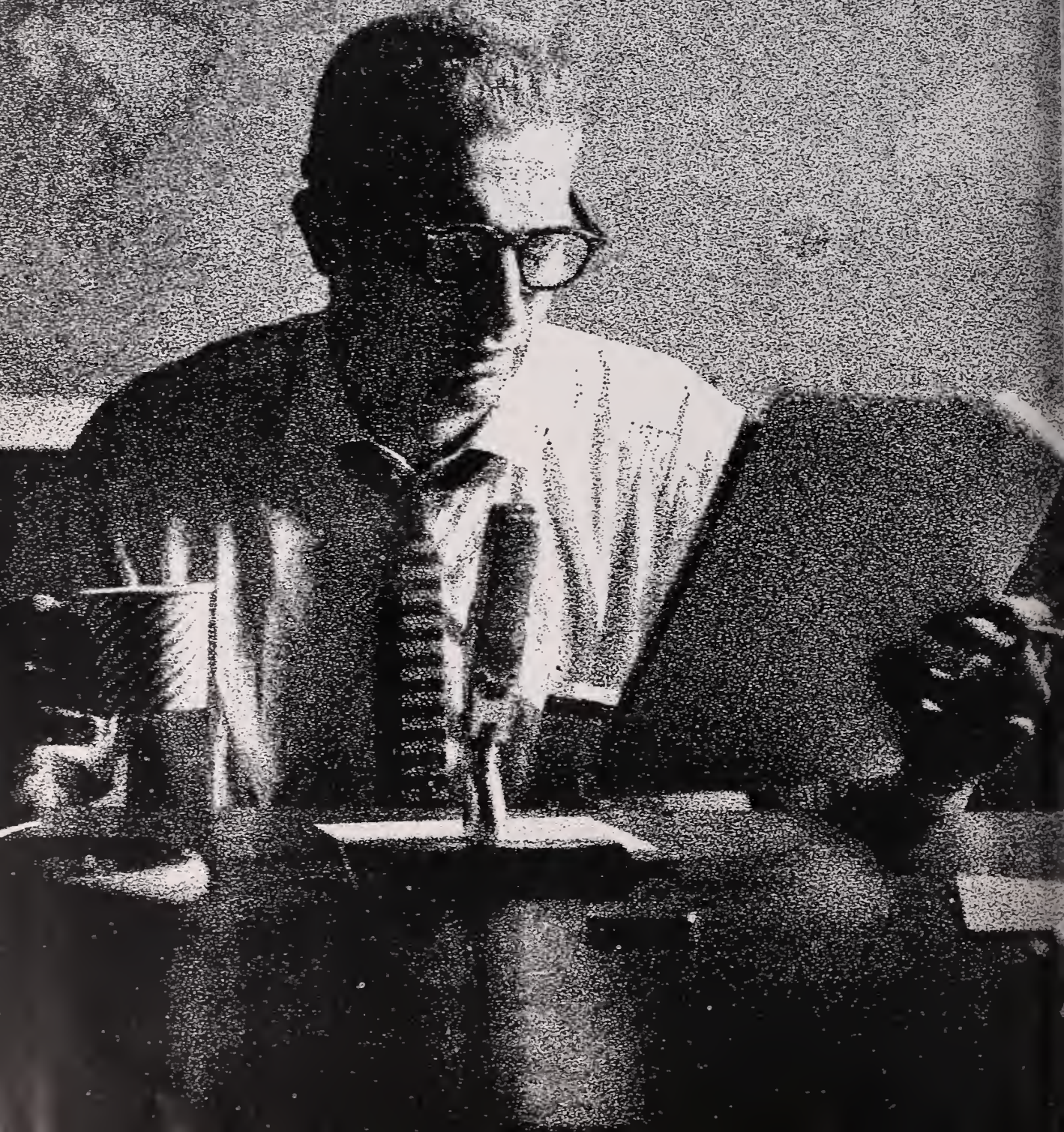
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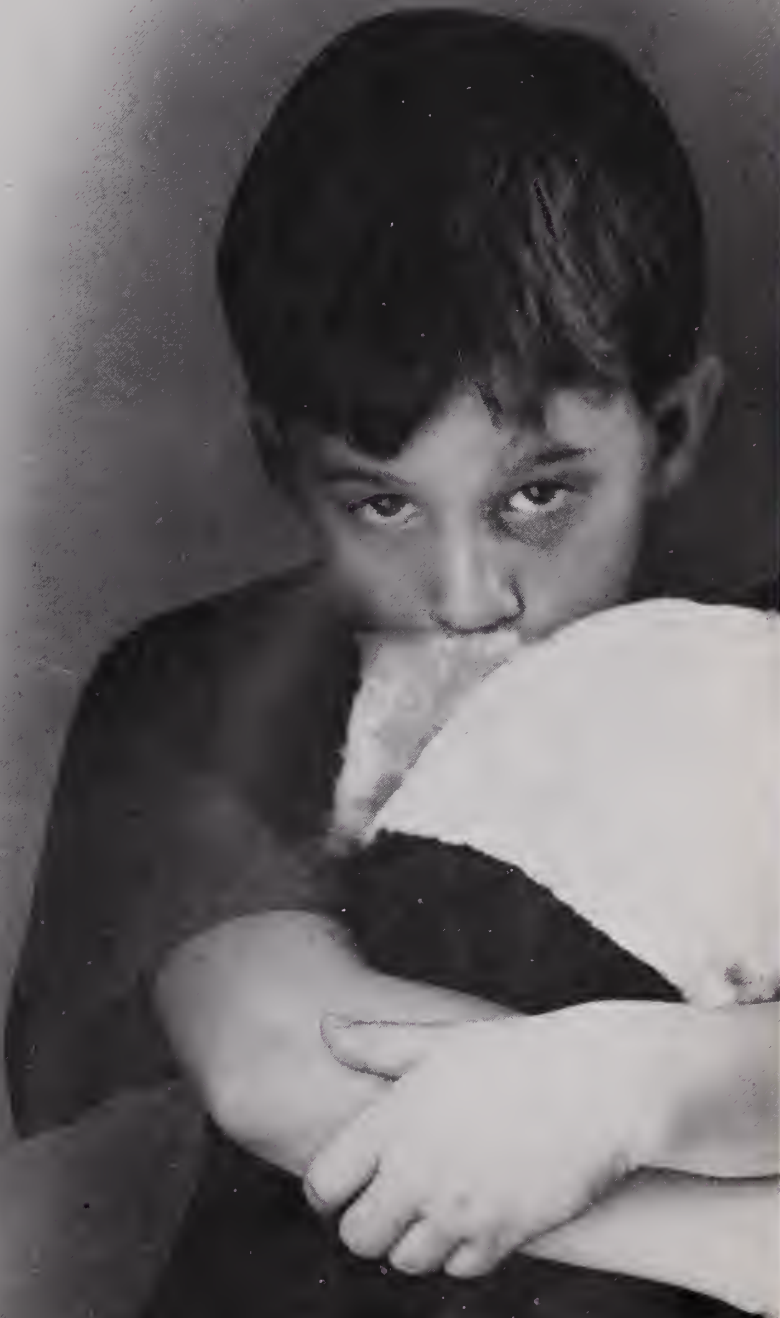
(1) Beck, J. W.; Saavedra, D.; Antell, G. J., & Tejeiro, B.: *Am. J. Trop. Med.* 8:349, 1959.

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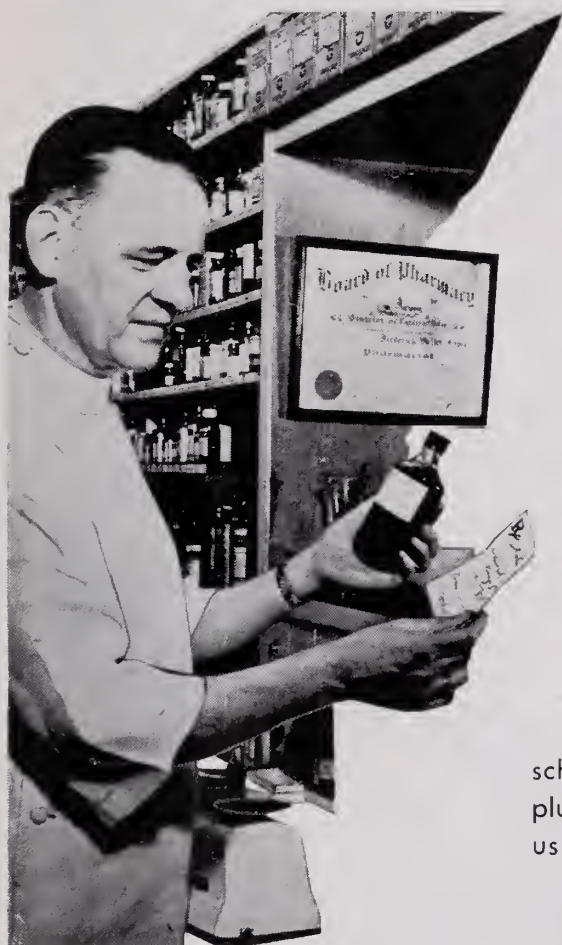
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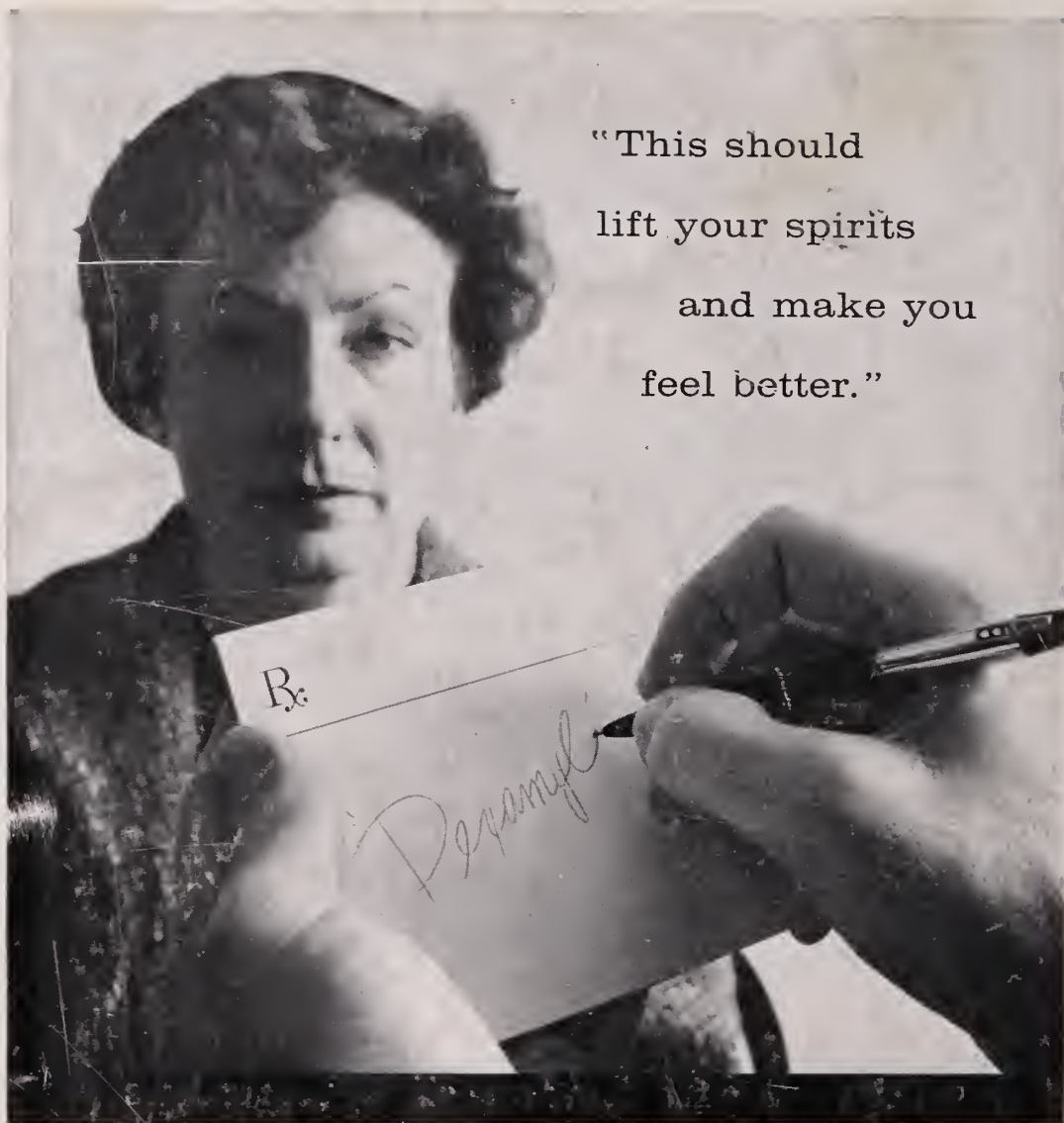
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Spansule[®] brand of sustained release capsules

brand of dextro amphetamine plus amobarbital

When the depressed patient is particularly listless and lethargic, she will often benefit from the gentle stimulating effect of

Dexedrine[®] Tablets • Elixir • Spansule[®] capsules
brand of dextro amphetamine

 **Smith Kline & French Laboratories**

The New York Academy of Medicine

DUE IN TWO WEEKS UNLESS RENEWED.

NOT RENEWABLE AFTER 6 WEEKS

[illegible]

